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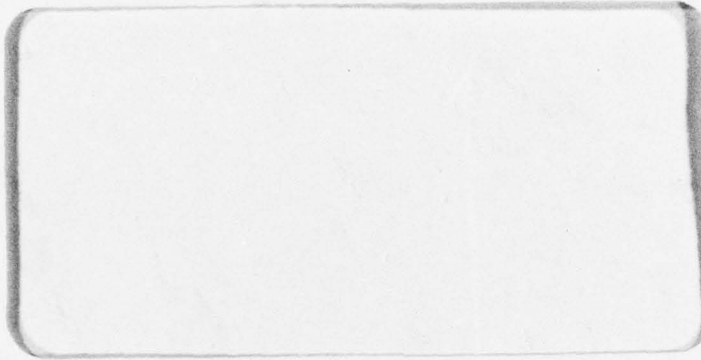


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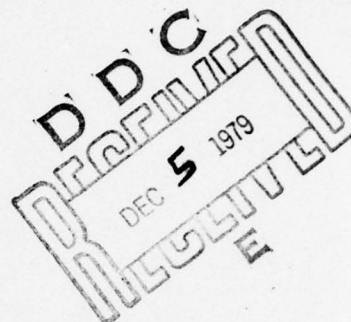
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) → This study attempts to isolate tactical doctrine as it contributes to the battlefield performance of the U.S. "heavy" division. Using a systems approach, the study evaluates identical divisions as they operate in a 1986 European battlefield environment against a Warsaw Pact force. The variable within each system is the tactical doctrine used by the division. Two tactical doctrines are tested. The first, the "base case," is the current (Over)		

rine out of "How to Fight" series of Field Manuals, most particularly FM100-5 Operations and FM7-1000 Armored and Mechanized Division Operations. The second, the "alternative," is called "Mobile Operations" and represents the study group's synthesis of some of the best operational features of U.S., USSR, Israeli and German doctrines and their antecedents. ←

The study uses two testing devices: a war game, a significantly modified version of SPI's NATO Division Commander and two surveys. The study uses measures of performance and effectiveness derived from TRADOC's Division 86 and Battlefield Development Plan. The study provides conclusions and recommendations with respect to current doctrine, doctrine development, force development and modernization, and training development for 1986. While focused upon the European environment, the study's conclusions generally apply to all armored or mechanized operations.

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APPENDIX A

MEASURES OF EFFECTIVENESS (MOE) AND
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APPENDIX A

MEASURES OF EFFECTIVENESS (MOE) AND MEASURES OF PERFORMANCE (MOP)

The purpose of this appendix is to describe the process by which the Measures of Effectiveness (MOE) and the Measures of Performance (MOP) used in this study were derived.

Part I - MOE

1. General. MOE are used in this study to indicate the extent to which variants of the Army's 1986 "heavy" division, under a specific set of circumstances, attain their objectives and to indicate the extent to which the alternative tactical doctrines at issue in the study contribute to this goal. Appropriately, for a military force, they are measures of the degree to which the divisions accomplish their battlefield missions.

2. Division 86 - "Heavy" Division Missions. Division 86 specifies that the most critical mission for the Army's "heavy" division in 1986 will be to carry out its offensive and defensive tasks as part of a Corps committed to CENTAG or NORTHAG within the NATO Alliance. Specifically:

a. In the offense - To destroy enemy security and main defensive belt forces within its zone of attack.

b. In the defense - To destroy the enemy 1st and 2d echelon divisions entering the battle area.

3. War Game. The "heavy" division variants developed in this study were expected to be required to carry out similar offensive and defensive missions, in a similar environmental and threat setting, during the play of a war game conducted as part of this study. The combat data generated by the war game are used as the basis for the measurement of the variants' ability to accomplish their battlefield missions.

4. Mission Analysis

a. The mission statements delineated above contain U.S. Army tactical terms which, as used by the Army, would communicate the following instructions to a "heavy" division commander. They represent the intent of his Corps commander.

(1) In the offense - eliminate organized enemy resistance from the division's assigned area forward of the line of contact by: isolating the enemy forces in the enemy's security and main defensive belts; preventing their escape; and subsequently killing or capturing most of the personnel. Also destroy, damage, or capture sufficient enemy equipment to make the enemy forces in those belts ineffective as tactical units.

(2) In the defense - render those elements of the enemy's 1st and 2d echelon divisions that enter the

division's assigned sector incapable of performing their assigned missions or functions.

b. Threat Analysis

(1) Defense

(a) The purpose of the threat security zone would be to halt or delay the division by forcing its early deployment. The zone extends up to 30 kilometers deep and is protected by forces of the threat's 1st echelon tank and motorized rifle units (elements of the threat Army facing the division), or if the threat's main defense belt is not yet established, by the elements of the main defense belt's motorized rifle divisions.

(b) The purpose of the threat's main defense belt would be to stop and destroy the division. The belt extends up to 15 kilometers deep and is manned by the motorized rifle divisions of the threat Army's 1st echelon.

(2) Offense

(a) The 1st and 2d echelon threat divisions comprise the 1st echelon forces of a threat Front; they constitute the Front's 1st echelon Army. The mission of the threat 1st echelon Army would be to achieve objectives 150-200 kilometers from the forward edge of the battle area (FEBA) on DAY(D)+3 or D+4. The Army is fully committed on D+2 or D+3.

(b) These objectives are achieved sequentially:

1 The 1st echelon divisions (the Army's 1st echelon), fully committed by HOUR(H)+18, are expected to attain objectives 50-70 kilometers from the FEBA on D+2 or D+3.

2 Subsequently, the 2d echelon divisions (the Army's 2d echelon) are expected to complete the attainment of the 150-200 kilometer objectives.

5. Study MOE. The above mission analysis suggested the following MOE for use in the study.

a. In the offense:

Expected extent of the loss of effectiveness suffered, during the "heavy" division's attack, inflicted by the threat security and main defensive belt forces in the division's assigned sector; and the expected duration of the loss of effectiveness.

b. In the defense:

Expected extent to which the threat 1st echelon Army's 150-200 kilometer objectives are not achieved at D+4; and the extent to which ultimate attainment of the objectives has been delayed.

PART II - MOP

1. General. MOP are used in this study to indicate the extent to which variants of the Army's 1986 "heavy" division, accomplish their required functional activities and to indicate

the extent to which the alternative tactical doctrines at issue in the study contribute to this goal. Appropriately, for the evaluation of a battlefield system, they are measures of the degree to which the divisions accomplish their battlefield tasks.

2. Division 86 - "Heavy" Division Functions and Critical Tasks.

a. The division has traditionally been viewed as performing, or as planning to perform, ten routine functions. These functions are very broad in scope and encompass all the tasks that the division must accomplish.

Division 86, however, has identified an additional, more specific, framework for analyzing a division's battlefield performance. This framework provides the basis of the study's MOP.

b. Division 86 divides the air-land battle to be fought by the "heavy" division into two basic forms of activity: those associated with anticipating the battle (Force Generation) and those performed during the battle (Central Battle). Each form of activity is considered to have five tasks that are critical to its successful accomplishment. These ten tasks, as defined in Division 86, are delineated as follows, beginning with the Central Battle tasks:

(1) Target Servicing - Capability of the force to acquire, engage, and neutralize or destroy threat firepower

systems within the Central Battle. Includes the task of employing and coordinating supporting weapons, such as mortars, field artillery, and tactical air, as well as countermobility and electronic warfare assets that enhance the target servicing effort.

(2) Counterfire - Counterfire is the attack of enemy indirect fire systems. It includes all activities necessary to direct the attack upon enemy mortar, cannon, and rocket systems and their associated command and control and support systems.

(3) Air Defense - A reactive operation that includes all measures designed to nullify or reduce the effectiveness of an attack by enemy air assets. These measures include the capability to detect, acquire, identify, engage, and destroy enemy aircraft approaching or overflying the divisional area of operations. Implied in this task is the capability to interact with air defense systems of corps and higher levels to provide a comprehensive air defense environment which allows the division commander flexibility and freedom of action.

(4) Logistical Support - The provision of those critical supplies and services necessary to support the forces and systems committed to the battle.

(5) Command, Control, and Communications (C³)/ Electronic Warfare (EW) - Capability to receive, coordinate,

and disseminate orders, requests, combat information, and intelligence in an electronic countermeasure (ECM) environment.

(6) Surveillance/Fusion - To locate, classify, follow, project, and provide targeting information on the 2d echelon regiments of 1st echelon divisions and/or the 2d echelon divisions in support of C³ and interdiction tasks.

(7) Interdiction - The attack of second echelon forces which includes the first and second echelon divisions and their supporting elements not involved in the central battle, i.e., from the follow-on battalions of the 1st echelon regiments to the rear of the 2d echelon divisions.

(8) Force Mobility - The ability to move on the battlefield for the purpose of concentrating or relocating combat power. Successful movement includes preparation, control, support, and actual air and ground movements.

(9) Reconstitution - Those combat service support (CSS) actions required to regenerate the force and the materiel resources required by the force in preparation for the next Central Battle. It may occur prior to the battle, during conduct of the Central Battle, or after the battle has concluded. Reconstitution is a continuous process and the number and extent to which primary logistics subtasks will be performed at each level will be a function of the prevailing tactical situation and the time available.

(10) Command, Control, and Communications (Force Generation) - Included in the definition of C³/EW under Central Battle.

3. Task Analysis

a. Given the intimate relationship between Division 86 and the base case tactical doctrine of this study, the Division 86 critical tasks defined above were analyzed to remove any possible biases or restrictive shortcomings that would prevent them from serving, in an unbiased and comprehensive manner, as the basis of the study's MOPs.

b. The analysis determined that the critical tasks were biased.

(1) The terms "Central Battle" and "Force Generation" not only serve as functional area descriptive designations but also serve to delimit the battlefield in terms of threat echelons, corresponding to the approach delineated by FM 100-5 and the "How To Fight" series of manuals for defeating the threat.

(2) The critical tasks of Target Servicing, Surveillance/Fusion, and Interdiction [and the Logistical Support and Reconstitution tasks to a lesser extent] also reflect this approach and as such are unsuitable, without modification, to serve as a basis for the study's measurement criteria.

(3) An additional example of this bias is the redundancy of the Central Battle C³/EW and Force Generation C³ tasks.

c. The analysis suggested that none of the Division 86 tasks encompassed, with sufficient specificity, the requirement of both alternatives for deception activities, designed to prepare the battlefield and to give the enemy an incorrect picture of it.

4. Modified Critical Tasks. The task analysis suggested the following list of modified critical tasks for the "heavy" division. MOP based on these tasks are delineated in paragraph 5.

a. Target Servicing - The capability of the division to acquire, allure, engage, and neutralize or destroy threat firepower systems at the tactical level of duels and engagements. Includes the employment and coordination of supporting weapons such as mortars, field artillery, and close air systems, as well as countermobility and electronic warfare assets that enhance target servicing efforts.

b. Interdiction - The capability of the division to destroy, delay, or neutralize threat C³, CS (not by counterfire), CSS, and firepower systems encountered as a result of maneuver conducted at the operational level or by long range indirect fire systems.

c. Counterfire - The capability to suppress, neutralize, or destroy threat indirect fire systems. Includes all activities to direct such attacks.

d. Air Defense - The capability to detect, acquire, identify, allure, engage, and destroy enemy aircraft enter-

ing or overflying the divisional area of operations. Includes all measures designed to nullify or reduce the effectiveness of an attack by enemy air assets, be they fixed-wing aircraft, helicopters, or cruise missiles.

e. Logistical Support - The capability to provide those critical supplies and services necessary to support the divisional elements committed in the target servicing, interdiction, counterfire, or air defense tasks.

f. C³/EW - The capability to receive, coordinate, and disseminate orders, requests, combat information, and intelligence in an ECM environment.

g. Surveillance/Fusion - The capability to locate, classify, follow, project, and provide information on interdiction targets.

h. Force Mobility - The capability to move on the battlefield for the purpose of concentrating or relocating combat power. Includes preparation, control, support and all actual air and ground movement except those activities directly related to an interdiction effort.

i. Reconstitution - The capability to regenerate the force by CSS actions and to provide the materiel required for continuous operation.

6. Study MOP. The above critical tasks served as the basis for the following MOP used in the study:

a. Nine MOP expressing the extent to which each of the critical tasks is expected to be accomplished constitute the performance criterion for the study.

(1) Target Servicing. The expected degree to which the division is capable of acquiring, alluring, engaging, and neutralizing or destroying threat firepower systems during duels and engagements.

(2) Interdiction. The expected degree to which the division is capable of destroying, delaying, or neutralizing threat C³, CS (not by counterfire), CSS, and firepower systems encountered as a result of maneuvers conducted at the operational level or by engagement of long range indirect fire systems.

c. Counterfire. The expected degree to which the division is capable of suppressing, neutralizing, or destroying threat indirect fire systems.

d. Air Defense. The expected degree to which the division is capable of detecting, acquiring, identifying, alluring, engaging, and destroying enemy aircraft entering or overflying the divisional area of operations.

e. Logistical Support. The expected degree to which the division is capable of providing required critical supplies and services to those elements of the division committed to the target servicing, interdiction, counterfire, and air defense tasks.

f. C³/EW. The expected degree to which the division is capable of receiving, coordinating, and disseminating orders, requests, combat information, and intelligence in an ECM environment.

g. Surveillance/Fusion. The expected degree to which the division is capable of locating, classifying, following, projecting, and providing information on interdiction targets.

h. Force Mobility. The expected degree to which the division is capable of concentrating and relocating combat power by preparation, control, and support of and conduct of air and ground movements other than those directly related to interdiction efforts.

i. Reconstitution. The expected degree to which the division is capable of continuously regenerating the force and providing the materiel required for its operation.

6. War Game and Expert Survey

a. War Game. The "heavy" division variants developed in the study were expected to be required to carry out offensive and defensive missions during the play of a war game conducted as part of the study. The performance of the divisions in accomplishing modified versions of the above critical tasks during these missions was subjectively evaluated, prior to the game and at game termination, by the game players. The modified versions of the critical tasks are the result of an analysis of the tasks conducted as the first step in the development of the study's MOP.

b. Expert Survey. Expert opinion was solicited from U.S. military officers and civilian analysts as to the probable capability of the variants to accomplish the same modified versions of the critical tasks.

APPENDIX B

WAR GAME

APPENDIX B

WARGAME

1. Introduction

a. Purpose. The purpose of this appendix is to provide a general description of the wargame played as part of the study; to describe how the iterations (referred to as the "Games" from this point on) of the wargame were conducted; and to provide information regarding the wargame players.

b. Scope. The appendix is organized as follows:

(1) Paragraph 2--a general description of the wargame; wargame structure and variables.

(2) Paragraph 3--a description of the manner in which the Games were organized and conducted; supporting documents.

(3) Paragraph 4--player demographic information; a description of the process by which the players were selected and trained.

2. Wargame Description

a. The wargame used in the study is a modified version of the prototype of a wargame, NATO Division Commander (NDC), being developed by Simulation Publications Incorporated (SPI) of New York for the commercial market.

(1) NDC was selected by the researchers after a review of other available commercial and U.S. Army

wargames, i.e., First Battle, Pegasus, Battle, Fulda Gap, Red Star-White Star, and MECH WAR which were found not to be as suitable as NDC either because of excessive resource requirements; because of too high or too low a level of forces and/or command level simulation; or because of a lack of sophistication (critical aspects of the modern battlefield were not simulated).

(2) NDC was modified by the researchers to suit the purposes and assumptions of the study and to match the time, material and personnel resources available to the researchers. The study's modified version of NDC incorporated changes to the rules, procedures and game variables, e.g., unit combat power, of SPI's NDC. The changes were made based upon an analysis by the researchers of the 1986 battlefield environment; 1986 U.S. and Soviet weapon and support systems' capabilities; and 1986 U.S. and Soviet organizations. A copy of the modified wargame's structure and variables is provided at Annexes B-1 and B-2. The Wargame Structure provides, in detail, the wargame's rules, variables, and procedures. Annex B-2 provides a summary of game variables not contained in Annex B-1. The paragraphs which follow highlight key features of the wargame and contain additional details not provided in Annex B-1.

b. Key W game Features

(1) The study's wargame allows two players, one

using U.S. forces (in the study the U.S. 8th Mechanized Infantry (8MID)) and one using Soviet forces (in the study the 27th Motorized Rifle Division (27 MRD), the 7th Tank Division (7 TD), and the 11th TD of the Soviet 1st Guards Tank Army (1 GTA)) to conduct simulated combat operations against each other's forces. The simulated combat takes place in the "Fog of War" in that the player's knowledge of the actual combat situation is limited to that which would be available to them on a real battlefield. Each player uses a 3' x 2' terrain color coded game board on which he moves and fights his units represented by $\frac{1}{2}$ " x $\frac{1}{2}$ " counters and on which he locates only those enemy units for which he has combat information or intelligence.

(2) Combat is conducted under the control of a referee(s), one or more of the researchers, (minimum-1; maximum-3) who: provides strategic, tactical and environmental information to the two players; monitors and records the flow of the game (on a gameboard which represents the "actual" combat situation); computes, records, and reports (when appropriate) combat results; and provides instructions; rule interpretations, and game play guidance. (See Annex B-3 for the referee's checklist)

(3) During the game each player is required to manage his forces' combat and combat support resources constrained by his initial resource allocation to him at

the beginning of the game. The referee(s) insures that each player stays within the limits of his resource allocation. The resource allocation/management problem of the game player focuses the player's attention upon the critical tasks of TRADOC's BDP and Division 86 while he attempts to execute his tactical concepts.

(4) The wargame is played in successive game-turns, each game-turn representing 8 hours of combat, composes of alternating player-turns. The rules of the wargame provide proximate simultaneity of action despite this artificiality. The real time to simulated time ratio realized during the Games of the study was approximately 2-3 hours of simulated combat for 1 hour of play. Each player-turn is composed of seven phases: Intelligence, Asset Transfer, Mode Change, Offensive Fire Support, Defensive Fire Support, Movement and Combat, and Housekeeping.

3. Conduct of the Games

a. Four Games were conducted during the study. Each Game matched a U.S. "heavy" division (i.e., the 8 MID,) using either the base case tactical doctrine or the alternative tactical doctrine, defending against an attack by the previously mentioned elements of the Soviet 1st GTA using one of two Soviet Operational Methods (OM): Breakthrough (B) or Multiple Penetration (MP). The combinations played are shown in the following table.

TABLE B-1

GAME COMBINATIONS

<u>U.S. TACTICAL DOCTRINE</u>		
<u>SOVIET OM</u>	<u>BASE CASE</u>	<u>ALTERNATIVE</u>
B	GAME 4	GAME 1
MP	GAME 3	GAME 2

b. The strategic scenario for all the Games is at Para. 1(i) in Chapter II. This scenario was briefed to all players, U.S. and Soviet, prior to the games. Each player was also provided a copy of the scenario. Each U.S. and Soviet player was given an Intelligence Estimate (Annex B-5 for the U.S.; B-6 for the Soviet) and an Operations Order (Annex B-7 for the U.S. base case tactical doctrine players; B-8 for the U.S. alternative tactical doctrine players; B-9 for the Soviet Breakthrough OM players; and B-10 for the Soviet Multiple Penetration OM players). Each Operations Order's "Concept of Operation" paragraph reflected the tactical concepts of a U.S. tactical doctrine or a Soviet OM.

c. The player pairings for the Games were as follows:

(1) Game 1-3 players from the Alternative Tactical Doctrine Group (see Annex B-11) were paired with 1 player from the Soviet group (see Annex B-11) who used the Breakthrough OM in the Game.

(2) Game 2--the remaining 3 players from the Alternative Tactical Doctrine Group were paired with another player from the Soviet Group who used the Multiple Penetration OM in the Game.

(3) Game 3--3 players from the Base Case Tactical Doctrine Group were paired with a third player from the Soviet Group who used the Multiple Penetration OM in the Game.

(4) Game 4--the remaining 3 players from the Base Case Tactical Doctrine Group were paired with the remaining players in the Soviet Group who used the Break-through OM in the game. These pairings were derived randomly; as were Group assignments, Game assignments, and Game order of play.

d. The US players in each Game commanded the 8 MID sequentially (randomly determined) but were allowed to confer prior to and during the Game. Each player received a situation update either from the previous player or from one of the referees prior to his portion of the Game.

4. Game Players

a. Annex B-12 provides demographic information on the Game players. The game players were all volunteers from among the Army officer students at the NWC during the academic year 1978-1979 who responded to the memorandum at Annex B-13.

b. Although different levels of understanding of the game rules and of the tactical doctrines/OMs were represented within the player groups no deliberate attempt was made by the referees to "level" the player's skill in

conduct of tactical operations during the Games. However, Game "strategy" and rule explanations were provided to prevent to the extent possible unrealistic events during the Games.

c. Player Training

(1) The players were provided and requested to study an appropriate tactical doctrine (See Appendices E and F of this study for US doctrines; the Soviet players received and were requested to study a document similar to the threat position of this study's Chapter 2) two weeks prior to their Game. Each player also received a copy of his adversary's tactical doctrine at the same time.

(2) All US players were given an organization and equipment list identical to Para. 1e and 1h of Chap. II. This document identified the 1986 US "heavy" division's organization assumed in the study and the weapon and support that are likely to be introduced into the "heavy" division by that date. Each player received approximately one hour of training in the game rules and its procedures prior to his Game.

ANNEX B-1

WAR GAME STRUCTURE

ANNEX B-1

WAR GAME STRUCTURE

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INTRODUCTION

This game is a modified version of the prototype of a war game being developed by Simulation Publications Incorporated (SPI). The game, NATO Division Commander, pits a U.S. division in Europe against Soviet forces.

In the game two players, one playing a U.S. division and one playing elements of a Soviet Guards Tank Army (GTA), compete under the control of a referee (the Controller) who provides strategic, tactical, and environmental information to the two players; monitors the flow of the game; computes and reports combat results; and provides instructions and rule interpretations. The players compete in the "Fog of War" in that their knowledge of the actual combat situation is limited to that which would be available to them on a real battlefield.

CHAPTER 1

SEQUENCE OF PLAY

1.1 General. The game is played in successive game-turns composed of alternating player-turns. Each player-turn is composed of seven phases.

1.1.1 Intelligence Phase. The phasing player receives strategic, operational, and tactical intelligence from the Controller who reports an appropriate level of information.

1.1.2 Asset Transfer Phase. The phasing player may transfer assets within his division or GTA. The assets which can be transferred are: Combat Support Points (CSPs), combat units, ammunition points, and the personal influence of the Commander.

1.1.3 Mode Change Phase. The phasing player may attempt to change the mode of any of the units he controls. All voluntary mode changes must be made in this phase (some events in the Movement and Combat Phase may cause involuntary mode changes).

1.1.4 Offensive Fire Support Phase. The phasing player may conduct counter-battery fire, against units for which he possesses intelligence, and interdiction.

1.1.5 Defensive Fire Support Phase. His opponent may then conduct counter-battery fire, against units for which

he possesses intelligence, and interdiction. During this phase the opposing player is considered the phasing player.

1.1.6 Movement and Combat Phase. The phasing player may now move and have combat within certain restrictions. Units are moved individually and all actions of one unit are completed before proceeding to the next. The phase ends when all units the player desires to move have been moved.

1.1.7 Housekeeping Phase. During this phase, a number of informational and status markers are removed. All breakthrough zone markers and interdiction markers are removed from the game boards. All engaged, 1/2 engaged, EW2 and EW3 markers are removed from units of the phasing player.

1.2 Opposing Player-Turn. The opposing player now becomes the phasing player and repeats the steps above.

CHAPTER 2

INTELLIGENCE PHASE

2.1 General. Each player may receive three types of intelligence.

2.1.1 Strategic Intelligence, concerning activity off the game board, will be provided to each player by the Controller.

2.1.2 Operational Intelligence covering activity outside his immediate area of operations will be provided by the Controller to the phasing player. The players' units' Operational Intelligence Level and Sector Coverage Ability will determine the amount and accuracy of the information. The Operational Intelligence Level may be increased and the unit's Sector Coverage Ability is determined by assigning Air and or Signal CSPs during each player turn.

2.1.3 Tactical Intelligence is gained by the use of friendly units in hexes adjacent to enemy units.

2.2 Procedures. During the Intelligence Phase of each player-turn, the phasing player may attempt to obtain Tactical, Operational, and Strategic Intelligence on enemy units. The phasing player may allocate Air and or Signal CSPs to the Operational Intelligence Level of his GTA or

division and to its Sector Coverage. He sets his Operational Intelligence Level with CSPs and then begins resolving Operational Intelligence. For simplicity, the phasing player should resolve all Operational Intelligence after resolving the Tactical Intelligence for that phase.

2.2.1 Operational Intelligence. The phasing player sets the Operational Intelligence Level and Sector Coverage Ability of his GTA or division. If the Sector Coverage Ability of the GTA or division is greater than zero, i.e., CSPs have been allocated to Sector Coverage for the GTA or division, he may conduct Operational Intelligence in the number of map sectors for which he has Sector Coverage Ability.

EXAMPLE: A player controlling the U.S. division with a Sector Coverage Ability of four could conduct Operational Intelligence in four map sectors.

The phasing player then designates the map sectors in which he is conducting Operational Intelligence. For each enemy unit not adjacent to a friendly unit in the designated sectors the phasing player may receive Operational Intelligence. For each unit the Controller determines the Intelligence Differential and rolls one die. He then cross-indexes the row of the Intelligence Table A-3 indicated by the die roll and the column indicated by the Intelligence Differential to find the result. If an Intelligence Degree is

indicated by the result, the corresponding degree of intelligence is immediately placed on the unit, on the Controller's gameboard, and a report made to the phasing player. The phasing player uses opponent counters to display this information on his own gameboard.

2.2.2 Tactical Intelligence. Tactical Intelligence may be received by the phasing player for each enemy unit adjacent to his own units. For each such enemy unit, he resolves Tactical Intelligence in the same way as for Operational Intelligence, except that no CSPs are used and the Intelligence Differential is solely dependent on the condition of any adjacent units controlled by the phasing player.

2.3 Operational Intelligence Level. The Operational Intelligence Level for the GTA or division begins at zero. The level may be increased above that value by allocating Air or Signal CSPs to the Intelligence Level during a friendly Intelligence Phase. The Operational Intelligence Level is immediately increased by the number of CSPs, of any type, allocated to it.

Example: If five Air CSPs were allocated to the Operational Intelligence Level in game turn 1, the Operational Intelligence Level for the division in that phase would be five.

2.3.1 Sector Coverage Ability. The Sector Coverage Ability of the GTA or division is determined each Friendly Intelligence Phase, by the phasing player allocating Air and or Signal CSPs to Sector Coverage. The Sector Coverage Ability for an Intelligence Phase for the GTA or division is equal to the number of CSPs allocated by the player to Sector Coverage.

2.3.2 Determining the Intelligence Differential in Operational Intelligence. The Intelligence Differential used in conducting Operational Intelligence on an enemy unit is found by subtracting the Intelligence Value of the unit from the Operational Intelligence Level of the GTA or division conducting the intelligence. The Intelligence Value of a unit depends on the mode the unit is in. The Intelligence Value of each mode is found in the Mode Markers Display.

2.3.3 Explanation of Intelligence Degree/Information Levels.

Intelligence Degree

Information Level

1

The player is told that the opponent's unit exists.

2

The player is told that the opponent's unit exists and its type.

3

The player is told the exact designation of the opponent's unit and its hex location. During Movement & Combat the phasing player is told the hex location of an enemy unit when the phasing player's unit enters the Zone of Control; the non-phasing player is told "Contact" but not the

hex location of the enemy unit unless combat is initiated after "location".

4

The player is told the opponent's unit designation plus its current T/O Level, as well as its hex location.

2.4 When Intelligence Markers are Removed. Intelligence Markers are removed from a unit at the end of a Movement and Combat Phase in which the unit is moved at least one hex.

2.5 Tactical Intelligence and the Intelligence Differential.

The Intelligence Differential used in resolving Tactical Intelligence is 12 if there is a unit of the phasing player, which is not engaged or 1/2 engaged, adjacent to the enemy unit for which intelligence is being resolved. The Intelligence Differential used in resolving Tactical Intelligence is 10 if there are only engaged or 1/2 engaged units of the phasing player adjacent to the enemy unit for which intelligence is being resolved.

CHAPTER 3

ASSET TRANSFER PHASE

3.1 General. Headquarters units are divided into three types: Soviet GTA, U.S. and Soviet Division, and U.S. and Soviet Brigade or Regimental HQs. Every HQ may have both combat units and CSPs attached to it. These attached assets may be transferred during the Asset Transfer Phase by the phasing player among his HQ units. Headquarters units employ CSPs, change the modes of any attached combat units, and provide command control for all attached combat units. Each Headquarters possesses a number of Staff Points, called the Staff Point Allowance, which are used each turn to change the mode of combat units. HQ units may be eliminated as a result of combat, just as any combat units can but, unlike eliminated combat units, HQ units may be reconstructed during the owning player's Asset Transfer Phase. Headquarters may also suffer the effects of fatigue, as a result of movement or attempting to change modes.

3.2 Procedures. During the Asset Transfer Phase of each player-turn, the phasing player refers to the CSP Allocation and Use Display.

3.2.1 Step 1. The phasing player moves all CSP counters which are located in a Transferring Box, i.e., were

transferred the previous turn, of a HQ unit to the Unused Box of that HQ unit.

3.2.2 Step 2. The phasing player selects which CSP Counters he wishes to transfer and moves those counters from any box of a HQ unit's display to the Transferring Box of some other HQ unit's display.

3.2.3 Step 3. The phasing player may change the HQ attachment of any combat unit (see 3.4).

3.3 Transferring CSPs. Any number of CSPs may be transferred from one Headquarters unit to another of the same division in any Asset Transfer Phase; between the divisional HQs of the divisions within the GTA. CSPs may not be transferred more than one level of command during any one Asset Transfer Phase; i.e., brigade or regiment to division (or vice versa); division to GTA (or vice versa).

3.3.1 The CSP Allocation and Use Display is used to record the attachment of CSPs to HQ units. For each HQ unit in a division or GTA, there are three boxes on the display. These boxes are labelled Transferring, Unused, and Used (Used and Unused only for brigade and regiment). All CSP Counters are initially placed in the Unused Box of the HQ unit to which they are attached. As CSPs are transferred, they are placed in the Transferring Box.

3.3.2 All CSPs, except Air CSPs, may only be transferred between two HQ units if there exists a path of hexes

between the two HQ units unobstructed by enemy units or Zones of Control. Air CSPs may always be transferred.

3.3.3 All CSPs which are located in the Transferring Box of any HQ unit are halved in effectiveness if they are used to perform any Combat Support functions. All fractions are rounded down.

3.3.4 CSPs may only be transferred in the Asset Transfer Phase of a phasing player turn.

3.4 Transferring Combat Units. During the Asset Transfer Phase, the phasing player may transfer any combat unit from the HQ unit to which it is currently attached, to any other HQ unit.

The use of staff points and command control are affected by the current attachment of a combat unit (see 3.5).

3.4.1 If no other indication is present a combat unit is attached to the HQ unit indicated by the identification number on the counter.

3.4.2 When a combat unit is transferred to a HQ unit different from its HQ at the start of the game, a separate note must be made on a sheet of paper of the identification of the combat unit and the HQ to which it is attached and given to the Controller.

3.4.3 Any combat unit which is transferred has its Movement Allowance halved for the remainder of the player turn.

3.5 Command Control. All combat units may be either in Command Control or Out of Command Control. HQ units, themselves, are always considered in Command Control. A combat unit is out of Command Control whenever the HQ unit to which it is attached is eliminated or as a result of Electronic Warfare.

3.5.1 Any unit out of Command Control remains in the mode it is currently in and may not change into any other mode while Out of Command Control. In addition, all combat units which are Out of Command Control have their Movement Allowance cut in half.

3.5.2 In combat, any unit Out of Command Control receives a -8 shift if it is attacking, and a +4 shift if it is defending. A unit Out of Command Control remains so until the unit is transferred to an existing HQ, or until its HQ is reconstructed (see 3.8).

3.6 Commentary. The HQ units in the game consist of a GTA and divisional, brigade or regimental HQ. Together these three levels of command structure direct the functioning of the units.

3.6.1 GTA HQ. The only GTA HQ represented in the game is that of the Soviet player. It conducts Operational Intelligence for the Soviets.

3.6.2 Divisional Headquarters. Divisional Headquarters represented in the game are: Division Main HQ (DIVMAIN), Division Tactical HQ (DIVTAC), Division Artillery HQ (DIVARTY), and Division Support Command (DISCOM) (U.S. only) and Regimental Trains (Soviet only; hereafter discussed as a HQ).

3.6.2.1 DIVMAIN. DIVMAIN house the main divisional staff elements which integrate and assess intelligence from all sources, perform overall planning functions for the division, and communicate with adjacent and higher echelon Headquarters.

3.6.2.2 DIVTAC. The division commander will normally exercise control of combat operations from the DIVTAC Command Post, located well forward in the battle area to permit effective control.

3.6.2.3 DIVARTY. DIVARTY is considered to direct the fire support functions of division attached artillery units and coordinate the execution of the overall fire support plan for the division. Only it conducts Counter Battery and Interdiction missions.

3.6.2.4 DISCOM and Soviet Regimental Trains. Control logistical functions including maintenance, supply, transportation, medical, and finance.

3.6.3 Brigade and Regimental Headquarters: Brigade and regimental headquarters in both U.S. and Soviet forces

perform functions in terms of their own echelons similar to those performed at the division level by the DIVTAC.

Brigade and Regimental HQ's are displaced as much as possible to keep pace with the movement of the battle, and for self-protection. Only it conducts Barrage or FPF missions.

3.7 Effects of Eliminating GTA or Divisional HQS. In addition to the loss of command control by its attached units, the elimination of the GTA or a divisional HQ has other effects, depending on which HQ is eliminated.

3.7.1 Elimination of GTA HQ, DIVMAIN and DIVTAC. If GTA or if both DIVMAIN and DIVTAC of a U.S. divisions are eliminated from play, a player may not conduct Operational Intelligence. If the DIVMAIN and DIVTAC are both eliminated, a player may not use CSPs attached to other divisional HQ units. There is never any restriction on transfer of CSPs.

3.7.3. Elimination of DISCOM or Soviet Trains. If a supply unit is eliminated, the player may not use ammunition resupply (see Chapter 12) for that division (US) or regiment (Soviet).

3.7.3 Elimination of DIVARTY. If the DIVARTY HQ unit of any division is eliminated, FACSPs are halved in effectiveness, rounding fractions down.

3.8 Reconstruction of HQ Units. Any eliminated HQ unit may be reconstructed during the Asset Transfer Phase of the

owning player. The owning player must reduce one combat unit's T/O Level by one and reduce the Staff Point Allowance of one HQ unit of the same division as the unit being reconstructed by one staff point. The HQ unit being reconstructed is immediately placed on the map in a hex adjacent to the combat unit whose T/O level was reduced.

3.8.1 Staff Points may only be transferred to reconstruct an eliminated HQ and only in the way described above.

3.8.2 The T/O Level of the newly created HQ unit is zero.

3.8.3 CSPs may be transferred to an HQ unit in the phase in which it is reconstructed.

3.8.4 The combat unit contributing the T/O Point must be a unit in the same division as the reconstructed HQ, and assigned to the same brigade or regiment if the HQ is a brigade or regiment HQ unit.

3.9 Fatigue and Headquarters. HQ units suffer all the effects of fatigue in the same way as combat units. HQ units also suffer additional effects if the HQ unit is in F3 fatigue status.

3.9.1 HQ units which are in F3 fatigue status have their Staff Point Allowance halved, fractions rounded down.

3.10 Engaged Effects on Headquarters. HQ units suffer the effects of being engaged and 1/2 engaged in the same way as combat units and certain additional effects as well.

3.10.1 HQ units which are 1/2 engaged have their Staff Point Allowance halved, fractions rounded down. Also, CSPs attached to the HQ are halved in effectiveness (fractions rounded down) except for CSPs used in FPF in a combat involving the HQ unit itself.

3.10.2 HQ units which are engaged have a zero Staff Point Allowance and CSPs attached to the HQ may not be used, except for FPF in a combat involving the HQ itself or a Barrage Mission in a combat involving an enemy unit in a hex adjacent to the HQ itself.

3.11 HQ Units and Losses. Whenever an HQ unit is called upon to suffer T/O losses the Controller uses the following procedure: Roll one die. If the result is a one, the HQ is eliminated. Any assigned combat units are considered Out of Command Control (see 3.5) and any CSPs attached to that HQ are changed to the appropriate boxes of the CSP display for the division or GTA. If the result of the die roll was not a one, then the losses are taken as CSPs.

3.11.1 The owner of the HQ unit suffering losses removes the first CSP, the Controller removes the second,

and the two continue alternating removing CSPs until the loss is satisfied. The Controller's choice is based on priorities set by the opposing player.

3.11.2 If all assigned CSPs are eliminated and losses remain to be taken, the HQ unit is eliminated and all attached units are Out of Command Control.

CHAPTER 4

MODE CHANGE PHASE

4.1 General. Every combat and HQ unit is always deployed in some mode. Combat units have their own modes, which are different from the modes of HQ units.

4.2 Modes, for Combat Units.

4.2.1 Position Defense (PD) Mode - An Operational Method (OM) which involves maximum planning and preparation for defense in a fixed position.

4.2.2 Mobile Defense (MD) Mode - An OM in which most of the unit involved is held in reserve so that it can maneuver against the attacking forces.

4.2.3. Hasty Defense (HD) Mode - An OM, similar to PD, except that less time is available for planning and preparation.

4.2.4 Reserve (RS) Mode - An OM employed when a unit is out of contact with the enemy and must be ready to respond to any type of situation. Also used for receiving replacements and reinforcements.

4.2.5 Double Zone (DZ) Mode - An OM in which the unit involved expands its normal frontage from 3 hexes to as much as 7 hexes.

4.2.6 Triple Zone (TZ) Mode - An OM in which the unit involved expands its normal frontage from 3 hexes to as much as 9 hexes.

4.2.7 Deliberate Attack (DA) Mode - An OM in which the unit takes the maximum planning and preparation necessary for an attack.

4.2.8 Hasty Attack (HA) Mode - An OM which allows less time for planning and preparation.

4.2.9 Relief/Infiltration (R/I) Mode - An OM used either to infiltrate an enemy position or to relieve a friendly unit in contact with the enemy.

4.2.10 Tactical Movement (TM) Mode - An OM in which careful attention is paid to reconnaissance and the ability to react effectively to offensive or defensive situations while on the move.

4.2.11 Administrative Movement (AM) Mode - An OM in which all other considerations are subordinated to speed. Units using this Mode are at a great disadvantage defensively and offensively.

4.3 Modes, for HQ Units

4.3.1 March Order (MO) Mode - HQ's equipment and personnel are to be considered loaded on vehicles and prepared for movement or moving.

4.3.2 Deployed (DP) Mode - HQ's equipment and personnel are to be considered deployed off their vehicles and organized for maximum staff and support functioning.

4.4 Rules. All combat and HQ units have their movement abilities determined and their combat abilities affected by the mode in which they are deployed. The mode of a unit is changed by expending Staff Points from the Staff Point Allowance of HQ unit(s). Units may voluntarily attempt to change modes only during the friendly Mode Change Phase. A unit may not always be able to change modes. If a unit fails to change modes, the phasing player may continually attempt to change the mode of the unit, as many times as desired, until the unit is successful or the player decides to cease making attempts. Each attempt to change modes will necessitate checking for fatigue effects on the unit. If a unit changes mode the Movement Allowance of the unit is halved for that player turn.

4.5 Procedures.

4.5.1 During the Mode Change Phase of each player turn the phasing player may attempt to change the modes of none, some, or all of the units he controls. All combat units currently assigned to a given regimental or brigade HQ have their mode changes resolved at the same time. To resolve mode changes the phasing player first declares the changes of mode the units of a given HQ are attempting to

make. Next, the Controller finds the total staff points required to perform all of these mode changes using the Mode Change Costs Table, A-5. The intersection of the row of the Table corresponding to the mode the unit is in and the column of the table corresponding to the mode the unit is attempting to change to indicates a number which is the number of Staff Points needed to perform that individual mode change. He adds together all mode changes for each HQ. Finally, he determines the number of staff points available to the HQ unit.

4.5.2 If the number of Staff Points needed to make the mode changes is less than or equal to the number of Staff Points available to the HQ, then all the mode changes declared are successfully made without any further procedure. If the number of Staff Points needed exceeds the Staff Points available, then he uses the Mode Change Table A-6. To use the Mode Change Table, cross-index the row corresponding to the number of staff points available with the column corresponding to the number of staff points needed to perform all the mode changes for that HQ unit. The intersection of row and column indicates a range of dice rolls. For each unit attempting to change mode, the Controller rolls two dice. If the combined result is within the range of die rolls listed the unit has successfully changed mode. Otherwise, the unit has failed to make the desired change. Whenever a unit successfully makes a mode change the mode

status of that unit is adjusted to the new mode. The phasing player may elect to roll again on the Mode Change Table for units which failed to change modes. When making subsequent attempts, the same range of dice rolls is used as when the Controller first rolled for the unit. After every mode change attempt, whether successful or not and even if the Mode Change Table was not used, the unit attempting to change modes must be checked for the accumulated effects of fatigue.

4.6 Staff Point Allowance and Staff Points Available. Every Headquarters unit is assigned a Staff Point Allowance. The staff points available to a regimental brigade HQ are equal to its Staff Point Allowance plus the total Staff Point Allowance of the divisional HQs of its parent division. The staff points available to a divisional HQ are equal to its Staff Point Allowance plus the total Staff Point Allowance of all the other divisional HQs of that division (plus those of the GTA for the Soviets).

4.6.1 The GTA or divisional HQ units' staff points may be used by several divisional, brigade, or regiment HQ units of the GTA or division in one Mode Change Phase without penalty.

4.6.2 The Staff Point Allowance of an HQ unit may be affected by fatigue and engaged or 1/2 engaged status (see 3.9 and 3.10).

4.6.3 Signal CSPs may be assigned to the GTA, division, brigade, or regiment HQ to increase the Staff Point Allowance of the HQ. For each Signal CSP assigned add one to the Staff Point Allowance of the HQ unit for that Mode Change Phase.

4.7 Mode Change Restrictions and Inhibitions.

4.7.1 Units which are engaged during the Mode Change Phase may not have their mode changed.

4.7.2 Any unit (except Recon) attached to a brigade or regiment HQ unit which is more than five hexes from that HQ during a Mode Change Phase must use double the number of Staff Points to change mode.

4.7.3 The Movement Allowance of a unit which changes mode is halved (fractions rounded down) for the remainder of the player-turn.

4.8 Double Zone (DZ) and Triple Zone (TZ) Modes. Combat units may enter Double Zone and Triple Zone (DZ and TZ) mode and thereby gain an additional two detachment units associated with the combat unit. These detachments remain in play only as long as the combat unit remains in DZ or TZ. The combat unit which changes into the DZ or TZ mode has an appropriate mode marker placed on it and detachment units are placed on the map. The combat unit is hereafter referred to as the core unit. Detachment units are not combat units.

4.8.1 When a unit is changed into DZ mode, the detachment units must be placed within two hexes of the core unit. When a unit is changed into TZ mode, the detachment units must be placed within three hexes of the core unit.

4.8.2 The detachments of a unit in DZ mode may never be moved more than two hexes from the core unit. The detachments of a unit in TZ mode may never be moved more than three hexes from the core unit.

4.8.3 The combat unit to be changed into DZ or TZ mode may not be in an enemy Zone of Control, when changing into such modes.

4.8.4 When changing out of DZ or TZ mode, the detachment units are removed from the map.

4.8.5 Detachments do not suffer fatigue in the same manner as combat units. In any player-turn in which the core unit or detachment units expend movement points, regardless of which units are moved, the core combat unit suffers the effects of fatigue.

4.8.6 Whenever a detachment unit or core unit becomes engaged or 1/2 engaged, both the core unit and both detachments become engaged and 1/2 engaged, respectively.

CHAPTER 5

COMBAT SUPPORT POINTS

5.1 General. The support elements attached to a HQ, or temporarily assigned to a HQ from higher echelons for the period of some operation, are represented in the game by Combat Support Points (CSPs). All CSPs begin the game attached to a HQ in accordance with the scenario. Subsequent to that CSPs may have their HQ attachment changed during a friendly Asset Transfer Phase (see 3.3). CSP records are kept on the CSP Allocation and Use Display to indicate their present attachment and status. CSPs may be freely changed like money as long as replacing CSPs are of the same type and total to the same number of points as those removed.

5.1.1 There are six different missions that CSPs may be assigned during the course of a game turn. They are: Operational Intelligence (GTA for Soviet; division for U.S.), mode changing, Counter-Battery Fire, Interdiction, Barrage and FPF. A single CSP may be used in one or more of these missions, provided the type of the point is allowed to perform the mission, in one game turn. The use of CSPs in Operational Intelligence is detailed in 2.2 The use of CSPs in Mode Change is detailed in 4.4 and 4.5. During the Offensive and Defensive Fire Support Phases of each player

turn CSPs may be used for Counter-Battery Fire and Interdiction missions. During the Movement and Combat Phase CSPs may be used in Barrage and FPF missions.

5.1.2 CSPs may not perform all of the missions listed. Different types of CSPs have different capabilities. Check the CSP Mission Capability Chart A-7 for which missions may be performed by which types of CSPs. Certain types of CSPs must be within a given distance of the targets of their missions in order to perform them.

5.2 Procedures

5.2.1 During the Offensive Fire Support Phase of each player turn, the phasing player, and during the Defensive Fire Support Phase of each player turn, the opposing player may allocate CSPs to Counter-Battery Fire missions or Interdiction missions. During any Movement and Combat Phase the phasing player may allocate CSPs to Barrage missions, and the opposing player may allocate CSPs to FPF Missions.

5.2.2 Operational Intelligence, Mode Change, Counter-Battery Fire, and Interdiction missions are assigned by the player by simply declaring the mission. Barrage and FPF missions must be assigned by simultaneously writing on separate sheets of paper, which are given to the Controller, the number and types of allocated CSPs by each player to a

given combat. The numbers may not be altered. Whenever assigning CSPs to a mission the CSPs allocated should be moved from the Unused Box of the CSP Allocation and Use Display where the CSP is currently located to the Used Box for the same HQ. CSPs which are already in a Used Box may not be allocated to another mission in that phase. At the end of any phase in which CSPs are used, the CSP in Used Boxes are moved to the Unused Boxes of the same HQ.

5.2.3 Counter-Battery Fire: CSPs assigned to a Counter-Battery Fire mission are assigned to attack a certain hex, out of friendly Zones of Control, occupied by an enemy unit. To resolve the mission the Controller uses the Counter-Battery Fire Table A-8. Cross-index the row corresponding to the Degree of Intelligence of the target unit with the column corresponding to the number of CSPs allocated to the mission. The result is read as a Combat Differential. This differential is used to resolve a combat against the target unit. The combat is resolved normally except that only losses to the Defender are applied, and the losses may not include a Retreat, they must be taken as T/O losses. No Breakthrough markers are placed if the unit is destroyed as a result of the combat.

5.2.4 Interdiction. CSPs are assigned to an Interdiction mission during any Counter-Battery Fire Phase.

The player assigning the mission selects a hex of the map which is to be interdicted. This hex may not knowingly contain an enemy unit unless the hex is a Road, Autobahn, Town, or City Hex. If it does no effect will result. The hex to be interdicted may never contain a friendly unit. An Interdiction marker placed on the opposing player's game board in the hex with a number of T/O markers which total to the number of CSPs interdicting. Nothing else is done immediately.

5.2.4.1 If an enemy unit attempts to enter or begins its movement in an interdicted hex a determination is made of how many movement points must be expended before entering the hex (or before leaving it if the unit begins its movement in the hex). This is done by treating the number of CSPs interdicting the hex (which is recorded by the T/O Markers) as a positive differential on the Combat Results Table. The Controller uses this differential to resolve a "combat". Only the final result to the defender has any effect, however, and it is interpreted as the number of movement points the moving unit must expend.

5.2.5 Barrage. CSPs are assigned to a friendly combat unit during a Movement and Combat Phase by the phasing player at the instant the unit conducts a combat. Once assigned the CSPs remain available to the unit as long as it continues to be moved. They are then placed in the Used

Box. Additional CSPs may be assigned to Barrage for a unit during subsequent attacks by that unit. All Barrage missions for a combat must be assigned to an attacking unit before resolving that combat.

5.2.6 Final Protective Fire (FPF). CSPs are assigned to a combat unit of the opposing player during a Movement and Combat Phase at the instant the unit is attacked. Once assigned, the CSPs remain available to that unit as long as the same unit is attacking it. They are then placed in the Used Box. Additional CSPs may be allocated to the unit for subsequent combats involving the same attacking unit. If later in the phase a second unit attacks the defending unit, new CSPs must be allocated to it for there to be any FPF.

5.3 Resolving Barrage and FPF. In any combat in which either Barrage or FPF missions are allocated the Controller will resolve these missions before resolving the combat. A Combat Support Differential is calculated by subtracting the number of FPF CSPs from the number of Barrage CSPs. The Controller then rolls one die and cross-indexes the row corresponding to the result with the column corresponding to the Combat Support Differential on the Support Shift Results Table A-9 to find the Combat Support result. The intersection of line and column indicates a shift of the Combat Differential. This shift is applied to the Combat Differential in computing the Final Combat Differential of the combat about to be resolved.

5.4 Range Limitations of Combat Support Points. The target hex of any mission to which Field Artillery or Engineer units are allocated must be within a certain range of the HQ unit to which the Field Artillery or Engineers are currently attached. Air and Signal CSPs may be used without regard to the distance between the HQ unit to which they are attached and the target of their missions.

5.4.1 FA CSP Range Limitations should be calculated as follows.

5.4.1.1. Counter-Battery and Interdiction: within ten hexes of the brigade or regimental HQ closest to a line between DIVARTY (of the division to which the CSPs are currently attached) and the target hex or within 5 hexes of the northern edge of the map sheet if no Soviet regimental HQ is on the game board (except U.S. covering forces without a brigade HQ serving as its control HQ; then the closest squadron HQ to the line).

5.4.1.2 Barrage and FPF: within ten hexes of the brigade or regimental HQ to which the CSPs are currently attached or within 5 hexes of the northern edge of the map sheet if no Soviet regimental HQ is on the game board (except U.S. covering forces without a brigade HQ serving as its control HQ; then within ten hexes of the closest squadron HQ to a line between DIVARTY and the target.

5.4.2. EN CSP Range Limitations should be calculated

in a similar manner to FA CSP range limitations except substitute DIVTAC for DIVARTY, 5 hexes for 10 hexes, and 2 hexes for 5 hexes. (Note EN CSPs cannot be used for Counter Battery.) Engineer CSPs, only, must trace the range from the HQ through hexes not in an enemy Zone of Control nor occupied by an enemy unit.

5.5 HQ Attachment and the Effectiveness of CSPs in Barrage and FPF. If the CSPs being allocated to either a Barrage Mission or a FPF mission are currently attached to an HQ unit which is not the HQ controlling the combat unit to which the CSPs are allocated, the CSPs are halved in effectiveness. The controlling HQ is the HQ to which the Combat unit is currently attached.

5.6 Soviet Units and FPF. Soviet units in PD mode may have CSPs allocated to them in a FPF mission. U.S. units may always use FPF. Soviet units in any other mode must be within three hexes of an HQ to use attached CSPs in FPF. Air CSPs may never be used by the Soviet player in FPF.

5.7 Intelligence and Counter-Battery Fire. A unit must have an Intelligence marker on it to be a target of Counter-Battery Fire.

CHAPTER 6

MOVEMENT

6.1 General. During his Movement and Combat Phase the player may move as many or as few of his units as he desires. Movement is calculated in terms of Movement points. Basically, one Movement point is expended for each clear terrain hex a unit enters; other terrain (except Road or Autobahn hexes) costs more than one Movement point to cross or enter. These effects are summarized on the Terrain Effects and Movement Costs Table A-11. Each unit may be moved as many hexes as desired as long as its Movement Allowance is not exceeded. The Movement Allowance of a unit solely depends on the mode the unit is in and whether the unit is using forced march. The movement of units is affected by the presence of enemy Zones of Control (see Chapter 7). Breakthrough markers also influence the number of Movement points needed to move a unit into a hex (see 6.3.3). During the Movement and Combat Phase, if a phasing player's unit is currently fatigued, the player may rest the unit in order to reduce its level of fatigue. Units which are being rested may not move or engage in combat; they reduce their level of fatigue (see 6.3.6).

6.2 Procedures. During the Movement and Combat Phase of his turn, each player moves his units or designates units

which are resting, one unit at a time, in order of regiment or brigade affiliation. This means that all movement and combat of the units of one regiment or brigade must be completely resolved for the Movement and Combat Phase before proceeding to any units in the next regiment or brigade.

6.2.1 The player moves each unit by tracing a path of hexes through the map hex by hex. As each hex is entered the unit must expend the appropriate number of Movement points, dependent on the type hex. The Movement Track in the player book should be used to keep a record of how many Movement points remain of the Movement Allowance of the unit. As each unit begins its movement, the player should place a mark on the space of the track containing the Movement Allowance of the unit. As Movement points are expended, the player should move the mark along the track the number of spaces required. This way, as combats are executed, there is a record of the number of Movement points remaining for the attacking unit. When a unit has its movement completed the phasing player must check for the effects of fatigue on that unit.

6.2.2 The phasing player may rest a unit by simply indicating that that unit is resting. Engaged units, unfatigued units, i.e., units with no Fatigue Level, or units committed to Forced March may not rest. Any unit which is resting immediately has its fatigue level reduced by two.

6.3 Cases

6.3.1 Movement restrictions and inhibitions.

6.3.1.1 A friendly unit may never enter a hex occupied by an enemy combat unit, nor may a unit end its movement in, or make an attack from, a hex occupied by a friendly unit. A unit may move through other friendly units at no Movement Point cost (exception see 6.3.2).

6.3.1.2 Movement may be performed only during a friendly Movement and Combat Phase. Combat also occurs during this phase; units must expend Movement points in order to attack (see Chapter 8).

6.3.1.3 Units with insufficient Movement points to meet terrain costs for a hex may not be moved into the hex. Units with a Movement Allowance of zero may not be moved at all.

6.3.1.4 A unit's total Movement Allowance may never be exceeded in any one Movement and Combat Phase. All, some, or none of a unit's Movement Allowance may be expended in each friendly Movement and Combat Phase. Unused Movement points may not be "saved" to be used in another Movement and Combat Phase nor be transferred to another unit.

6.3.1.5 Units do not require Staff Points in order to move. Once a unit has entered a mode it continues

to have the Movement Allowance of that mode.

6.3.1.6 A combat unit in DZ or TZ mode and its detachment units may be moved individually (within the restrictions of 4.8.2), but any movement by any of the component units consumes Movement points from the Movement Allowance of the core unit.

Example: A unit in DZ mode may expend all 18 Movement points by movement of the core unit, or one detachment may expend 6 Movement points, while the core unit may expend 8 Movement points and the remaining detachment expend 4 Movement points.

6.3.2 Terrain Effects on Movement. The presence of terrain within a hex may require a unit entering the hex to expend more than one Movement point, or may prohibit the unit from entering the hex altogether.

6.3.2.1 Road movement is permitted at a cost of 1/2 Movement point per hex entered, as long as the unit enters each hex across a hexside with a main road or autobahn crossing it, otherwise the unit expends the Movement point cost of the other terrain in the hex. A unit may not use the Road Movement Point cost for a main road if the hex being entered is occupied by a friendly unit or if the hex being entered is adjacent to a hex containing the same main road occupied by a friendly unit. Moving along the autobahn

is always at the Road Movement cost, regardless of the presence of friendly units.

6.3.3 Effects of Breakthrough on Movement. Breakthrough markers are placed on hexes vacated by units which are retreated or eliminated (see 8.8.3) and have an effect on movement.

6.3.3.1 The hex containing a Breakthrough marker and all hexes adjacent to it constitute a Breakthrough Zone. Each unit which is moved into any hex of a Breakthrough Zone must expend 5 additional Movement points to enter the hex. This penalty is expended for each hex of a Breakthrough Zone through which a unit is moved.

6.3.3.2 If a hex falls within more than one Breakthrough Zone, then any unit which is moved into the hex must expend 5 Movement points for each Breakthrough Zone which extends into the hex.

6.3.3.3 The presence of a Breakthrough Zone does not affect a unit's Zone of Control, whether enemy or friendly.

6.3.3.4 Combat units on AM may not move into a Breakthrough Zone Hex. Units using Forced March may not move into a Breakthrough Zone hex.

6.3.4 Forced March. During the Mode Change Phase, the phasing player declares whether any units are forced marching

and designates them by placing either a Forced March, Level 1 or Forced March, Level 2 marker on the units which will be forced marched.

6.3.4.1 Units which use Forced March, Level 1 must check for fatigue using column 3 of the Fatigue Table A-19. Units us using Forced March, Level 2 must check for fatigue using column 4 of the fatigue table.

6.3.4.2 Soviet units may not use Forced March until the game turn after either a Soviet unit is moved into a hex adjacent to a U.S. player's unit or the Soviet player achieves Level 3 or Level 4 Operational Intelligence on a U.S. unit.

6.3.5. Effects of Engagement on Movement

6.3.5.1 A unit which begins a friendly Movement and Combat Phase 1/2 engaged has its Movement Allowance halved.

6.3.5.2 A unit which begins a friendly Movement and Combat Phase engaged has its Movement Allowance reduced to zero.

6.3.6 Resting Units. Units which rest during a Movement and Combat Phase may not be 1/2 engaged or engaged. HQ units may not apply their Staff Points to any mode changes during the player turn in which they are resting, but they may use their CSPs in that player turn.

6.3.6.1 A unit which is resting in a Movement and Combat Phase immediately reduces its level of fatigue by two. If the unit is reduced below Fl (Fatigue Level 1), fatigue is removed completely.

6.3.6.2 Resting units do not count for adjacency in combat (see 8.4.4).

CHAPTER 7

ZONES OF CONTROL

7.1 General. The six hexes surrounding any unit constitute that unit's Zone of Control. Hexes on which a unit exerts a Zone of Control are called "controlled hexes." The Zone of Control of a unit is not constant. HQ units in March Order Mode have no Zone of Control. In addition, during a Movement and Combat Phase, the phasing player's units do not have a Zone of Control unless they are designated as Active by the player. Since several rules rely on using Zones of Control the players should wait until the phasing player has a chance to designate his Active units. The Zones of Control of friendly units have no effect on a player's own units.

7.2 Effects of Zones of Control on Movement

7.2.1 A unit which begins its Movement and Combat Phase in an enemy controlled hex may not move out of the hex in that Phase except when the unit is in Relief/Infiltration Mode (see 7.4).

7.2.2 A unit which moves into an enemy controlled hex as part of movement may move one hex from an enemy controlled hex to another enemy controlled hex at the cost of ten additional Movement points.

7.2.3 Once a unit has been moved into an enemy controlled hex it may not be moved into an uncontrolled hex (unless the unit is in Relief/Infiltration Mode).

7.2.4 Once a unit has moved one hex through an enemy Zone of Control it may attack assuming it has a sufficient Movement Point Allowance to do so, but may not continue moving. In this way, a unit could be moved into a controlled hex, be moved one more controlled hex, then attack and as a result of the Advance After Combat be out of enemy Zones of Control. It could then continue moving on and repeat the procedure all over again.

7.3 Active Units. At the beginning of each Movement and Combat Phase the phasing player must select which of his units will be Active in that phase and an Active marker is placed on each. During the Movement and Combat Phase the only units of the phasing player which possess a Zone of Control are the Active units plus the one unit being moved.

7.3.1 A unit which is Active may not rest or expend Movement points for the entire Movement and Combat Phase it is Active.

7.3.2 Active markers are removed during the House-keeping Phase of each player turn by the players.

7.4 Units in Relief/Infiltration Mode and Zones of Control.

A unit in Relief/Infiltration Mode may enter and leave as many enemy controlled hexes as it can within its Movement Allowance at no additional Movement Point cost as long as the unit is not moved directly from one enemy controlled hex to another. Such a unit could be moved from one enemy controlled hex to another using the procedure outlined in 7.3.

7.5 Relief. Relief occurs between two friendly units at the owning player's discretion during any friendly Movement and Combat Phase. One of these two units, the relieving unit, must be in Relief/Infiltration Mode and may not be in an enemy controlled hex. The other unit, the relieved unit, must be in an enemy controlled hex. In addition, the two units must be adjacent to each other.

7.5.1 Any number of reliefs may take place during a single Movement and Combat Phase.

7.5.2 Neither the relieving nor relieved unit may have expended any Movement Points in the Movement and Combat Phase prior to performing the relief.

7.5.3 No Movement Points are expended in a relief operation and the unit being relieved may move normally after the relief. The relieving unit must, however, do nothing further in that Movement and Combat Phase.

7.5.4. HQ units and units in DZ or TZ mode may not be involved in a relief.

CHAPTER 8

COMBAT

8.1 General. The phasing player's units engage in combat during the friendly Movement and Combat Phase by expending Movement points. The phasing player is the attacker, and the opposing player is the defender. Combat is resolved on the basis of the differential between the strengths of the opposing units, modified by a variety of other factors. Results are expressed as reductions in T/O Level. Extremely high differentials may result in an Overrun. Extremely low differentials may result in Attack Abort. Defending units become either Engaged or 1/2 Engaged as a result of combat. When the hex occupied by the defending unit is vacated as a result of combat, a Breakthrough marker is placed in that hex. The owning player may attempt to retreat his unit to reduce its T/O Loss as a result of combat.

8.2 Procedures

8.2.1 The Initial Combat Differential is found by subtracting the Defensive Strength of the defender's unit from the Offensive Strength of the attacker's unit.

8.2.2 This is modified by each of the following factors to produce the Final Combat Differential. (Each of these factors is cumulative and is expressed as a shift of

the differential. A shift is either an addition to or subtraction from the Combat Differential. The players should employ the Combat Differential Track in order to keep a record of the changes to the differential as the factors are included.

8.2.2.1 Surprise. The distance, in hexes, the attacker moved his unit prior to conducting the attack is considered to contribute to the surprise of the attack delivered and may produce a shift in favor of the attacker (8.4.7).

8.2.2.2 Terrain. The terrain in the hex occupied by the defending unit, or on the hexside the attacking unit is attacking through, may cause the combat differential to be shifted in favor of the defender (8.4.1).

8.2.2.3 T/O. The players now modify the combat differential for T/O Levels (8.4.2).

8.2.2.4 Mode. The players should modify the Combat Differential on the basis of the Mode Combat Shift Table A-25.

8.2.2.5 Adjacency. The players should modify the Combat Differential for adjacent units (8.4.4).

8.2.2.6 Command Control. The Combat Differential should be modified by the effects of being Out of Command Control. (8.4.5).

8.2.2.7 Unprepared Attack. A player may choose to expend a fewer number of Movement points than normal to have combat (8.3.1.2).

8.2.2.8 Fatigue. The Combat Differential should be modified by the effects of fatigue (8.4.6).

8.2.2.9 Combat Support. Players should apply the effect of Combat Support as it was found in the Combat Support Shift Table, to the Combat Differential (Chapter 5).

8.2.2.10 Environment. Environmental conditions during the turn may affect the Combat Differential (11.4).

8.2.2.11 Electronic Warfare. Players should modify the Combat Differential to reflect the impact of Electronic Warfare (Chapter 13).

8.2.2.12 The Commander. The players should modify the Combat Differential for the command influence of the Commander (Chapter 15).

8.2.3 If the final Combat Differential is -5 or less, the Attacking player must check for the possibility of Attack Abort Table A-14. If the final Combat Differential is +7 or more, the Attacking player must check for the possibility of Overrun Table A-15. If neither Attack Abort nor Overrun occur the Controller then rolls one die on the Basic Combat Results Table A-16, cross-indexing the line

indicated by the result of the die roll and the column indicated by the Final Combat Differential. If the Final Combat Differential is less than -4, treat it as -4. If the Final Combat Differential is greater than +6, treat it as +6. The result is a code letter and number which indicates a column of the Modified Combat Results Table A-17. The Controller again rolls one die using the result of this roll to indicate a line on the table and cross-indexing it with the column indicated by the result of the Basic Combat Results Table to obtain the final combat result. Note that some Combat Results affect both attacking and defending units. The results are announced and applied immediately; to the defending unit first if both are affected.

8.3 Cases

8.3.1 Movement Point Costs and Conditions of Combat.

8.3.1.1 The phasing player only conducts attacks during the Movement and Combat Phase. Each attacking unit must expend 10 Movement Points to attack a unit for the first time in a given Movement and Combat Phase. Additional attacks are made by expending 5 Movement points.

8.3.1.2 The phasing player may choose to expend only 5 Movement Points by an attacking unit in the initial attack against some defending unit. This is called an

Unprepared Attack. Any Unprepared Attack will have a -2 shift applied to the Combat Differential used to resolve the attack. Only the initial attack by one unit against another may be an Unprepared Attack.

8.3.1.3 All attacks on HQ units may be made by expending only 2 Movement points.

8.3.1.4 Attacking is completely voluntary. Units are never compelled to attack. Units may attack the same or different units more than once, up to the limit of their Movement Allowance.

8.3.1.5 Attacking units which choose, or are forced, to retreat as a result of combat may not be moved further in that Movement and Combat Phase and may not attack any more.

8.3.1.6 Only one attacking unit and one defending unit may participate in any combat, regardless of the presence of adjacent units. Units adjacent to the units in a combat only provide a shift to the Combat Differential and are never affected by the result of a combat.

8.4 Effects of Terrain, T/O, Mode, Adjacency, Command Control, Fatigue, and Surprise on Combat.

8.4.1 Terrain Effects. The terrain in the hex occupied by the defending unit or the hexside through which the

attacking unit is attacking may have an effect on the Combat Differential. The effect of each type of terrain on the Combat Differential is listed in the Terrain Effects and Movement Costs Table A-11.

8.4.2 T/O Effects. A shift equal to the result of subtracting the defender's T/O Level from the attacker's T/O Level is applied to the Combat Differential.

8.4.3 Mode Effects. The modes of the units involved in a combat have an effect on the Combat Differential. The Attack shift of the mode of the attacking unit (found on the Mode Marker) and the defense shift of the mode of the defending unit (also on the Mode Marker) are both applied to the Combat Differential. The Mode Combat Shift Table A-25 provides the net shift difference between attacker and defender.

8.4.4 Adjacency Effects. The Combat Differential is modified by the presence of units adjacent to the units involved in the combat. The Combat Differential is modified by a +2 shift for each combat unit of the attacker adjacent to the defending unit, other than the attacking unit itself. The Combat Differential is modified by a -1 shift for each combat unit belonging to the defender, other than the defending unit itself. Resting units and units in DZ or TZ Mode have no effect on the Combat Differential because of adjacency.

8.4.5 Command Control Effects. If the attacking unit is Out of Command Control the Combat Differential must be modified by a -8 shift. If the defending unit is Out of Command Control the Combat Differential is modified by a +4 shift. Each of these effects is separate and cumulative. Both shifts could occur if both attacking and defending units were Out of Command Control.

8.4.6 Fatigue Effects. The fatigue status of the units participating in a combat will shift the Combat Differential by an amount depending on the fatigue status of the units involved. The following summarizes the effects of Fatigue on Combat. Each row corresponds to a fatigue status named and each column names whether the effect is due to the attacker or the defender being in that fatigue status.

<u>Fatigue Status</u>	<u>Attacker</u>	<u>Defender</u>
F0	No effect	No effect
F1	-2	+1
F2	-5	+2
F3	-8	+3

8.4.7 Surprise Effects. There is an additional shift in favor of the attacker as a result of the element of Surprise. Surprise is measured by the difference between

the attacker's and defender's current intelligence level. See the Surprise Table A-13 for the exact shift. To use the Surprise table find the attacker's intelligence level across the top of the Table. Then find the defender's intelligence level down the left side of the table. Cross-index the column and row indicated to find the shift.

8.5 Attack Abort. If the Final Combat Differential is -5 or less, the Attacking player must refer to the Attack Abort Table A-14. The Controller rolls one die, cross-indexing the row corresponding to the number rolled with the column corresponding to the Final Combat Differential to find the result. If the Final Combat Differential is less than -10, use the -10 column of the table.

8.5.1 If the result is no effect the Attacking player should return to the normal Combat Resolution Procedure, outlined above.

8.5.2 If an Attack Abort occurs, the defending unit is unaffected. The attacking unit is immediately retreated one hex and has its T/O Level reduced by two. A unit which suffers Attack Abort must stop and expend no more Movement points in that phase.

8.6 Overrun. If the Final Combat Differential is +7 or greater, the attacking player must refer to the Overrun Table A-15. The Controller rolls one die, cross-indexing

the row corresponding to the number rolled with the column corresponding to the Final Combat Differential to find the result. If the Final Combat Differential is greater than +12, use the +12 column of the table.

8.6.1 If the result is no Overrun the attacker must return to the normal Combat Resolution Procedure, outlined above.

8.6.2 If there is an Overrun, the defending unit is immediately retreated one hex and it's T/O Level is reduced by two. After an Overrun result occurs the attacking unit and the defending unit involved in the overrun gain a special Overrun Status for the remainder of the movement of the attacking unit.

8.6.3 When the attacker has gained an Overrun result against the defender the attacking unit may ignore the Zone of Control of the defending unit. The attacking unit may also make additional attacks against the defending unit by expending only 2 Movement points to do so (this is an exception to 8.3.1.1). This only applies to the attacking unit which made the Overrun in the first place, and then may only be applied to the defending unit which was Overrun.

8.6.4 If the defending unit is prevented from retreating due to the presence of other units, impassable terrain, and/or enemy Zones of Control, the defending unit takes an

additional two reduction of its T/O Level. If the defending unit could not retreat because it has a zero Movement Allowance there is no such T/O loss.

8.7 Explanation of Combat Results. All final combat results are indicated by a split pair of numbers (or possibly dashes). The number to the left of the slash is the effect (in lost T/O points) to the attacker. The number to the right of the slash is the effect to the defender. The number indicates the maximum number of T/O Levels the affected unit is to be reduced. Each player has the option, when suffering a combat result, of attempting to retreat the unit one hex.

8.7.1. When a unit is retreated as a result of final combat results, the number of T/O Levels the retreating unit is reduced by is lowered by one. Thus if the result was a 1, the retreat would reduce that to no T/O Levels reduced, while a 2 result would, if the unit retreated, only incur 1 T/O Level reduced. Note that the retreat in an Attack Abort or Overrun is in addition to the number of T/O Levels the unit is reduced by.

8.7.2 All combat units at full strength have a T/O Level of six. All HQ units have a T/O Level of zero. The level may be reduced to zero. If the level is reduced below zero for any unit, that unit is eliminated from play.

8.7.3 If as a result of combat the defending unit is retreated or eliminated, a Breakthrough marker is placed in the hex formerly occupied by the defending unit. Breakthrough markers define a Breakthrough Zone which has an effect on movement for the remainder of the player turn (6.3.3.). Breakthrough markers are removed during the Housekeeping Phase of each player turn.

8.7.4 After the resolution of a combat, if the defending unit did not suffer a retreat or T/O loss a 1/2 engaged marker is placed on the unit. If the defending unit suffered a retreat or T/O loss an Engaged Marker is placed on the unit.

8.7.5. If a unit in DZ or TZ Mode is eliminated, Breakthrough markers are placed in each hex occupied by the detachment units, as well as by the core unit.

8.7.6 After any combat in which the attacking unit or the defending unit is located in a City hex a Rubble marker is placed in the City hex. If the hex already contains a Rubble marker, a second one does not need to be placed in the hex.

8.8 Retreat and Advance After Combat. Under certain circumstances, units may be retreated as a result of combat, Attack Abort, or Overrun. Retreats as a result of combat

are always voluntary, at the option of the owning player. Whether the unit may actually be retreated depends on the T/O Level of the unit.

8.8.1 If a player wishes to retreat a unit to avoid T/O loss the Controller rolls one die. He then subtracts one from the number rolled for each friendly unit which is adjacent to the opposing unit involved in the combat. If the modified number is less than or equal to the T/O Level of the unit (before removing any T/O losses as a result of the combat), the unit may retreat. If the modified number is greater than the T/O Level of the unit, the unit may not retreat and must accept all combat results as losses to T/O Level. If a one is rolled on the die, the unit may retreat regardless of its current T/O Level. If a 6 is rolled the unit may not retreat regardless of its current T/O Level.

8.8.2 Units in DZ or TZ Mode do not affect the die roll in 8.8.1.

8.8.3 When performing a retreat, the owning player moves the unit being retreated one hex. He may freely choose which adjacent hex to move the unit to, within the following restrictions. A unit may never be retreated into any hex already occupied by another unit. A unit may never be retreated into an enemy Zone of Control. A unit, also,

may not be retreated into a hex, or across a hexside, which it is prohibited to enter (or cross), see the Terrain Effects Table A-11.

8.8.4 HQ units may never retreat as a result of combat.

8.8.5 A unit in PD Mode, when retreated, is changed to HD Mode immediately upon retreating. A unit in either HD or R Mode, when retreated, is changed to TM Mode immediately upon retreating. These changes do not cause fatigue and do not require the expenditure of staff points.

8.8.6 If as a result of combat (either by a unit being retreated or eliminated) the hex of the defender's unit becomes vacant, the attacker may immediately move the attacking unit into the hex. This is termed as Advance After Combat. The unit which advances into the hex does not expend any Movement points to do so. The attacker must exercise this option immediately, or cease moving and having combat for that Movement and Combat Phase.

8.8.7 If an attacking unit retreats as a result of combat the unit may not be moved further in that Movement and Combat Phase.

8.9 Detachment and Headquarters Combat

8.9.1 The detachment units employed by combat units in DZ or TZ Mode represent the extension of the core unit rather than the creation of several new units. Each detachment, when involved in combat, attacks or defends with the T/O Level of the core unit; and losses in T/O Level sustained by detachments are subtracted from the core unit T/O Level.

8.9.2 Detachment units may never retreat as a result of combat beyond two hexes for DZ, or three hexes for TZ Mode from the core unit. If the only available hexes which would otherwise be legal to retreat into are beyond those distances from the core unit, then the detachment units must take T/O losses, they may not retreat.

8.9.3 HQ units may not attack. HQ units have a Defensive Combat Strength of one and a T/O Level of zero. HQ units may never retreat as a result of combat. When attacking HQ units, an attacking unit only expends two Movement points to attack.

8.9.4 Whenever an HQ unit suffers a combat result, the number of the result is doubled (i.e., 1 becomes 2 and 2 becomes 4) (see 3.11 for how losses are extracted from HQ units).

8.9.5 Overrun results against HQ units do not further double the losses if the HQ cannot retreat. If an HQ unit is Overrun and cannot retreat the losses are still only double that printed in the Combat Results Table.

8.10 Ammunition Depletion. At the end of each player turn in which a unit participates in combat and in which the unit can not trace a path of hexes free of enemy units and Zones of Control to its HQ, the unit has a possibility of depleting its ammunition. Whenever a unit has a possibility of depleting its ammunition, the owning player rolls one die, and if a six results, the unit is considered Ammunition Depleted. The owning player immediately places an Ammunition Depleted Marker on the unit.

8.10.1 Units which have Ammunition Depleted may not attack under any circumstances. When defending, units which have Ammunition Depleted suffer a +3 Combat Shift.

8.10.2 The Ammunition Depleted Marker is removed from a unit at the instant the unit is able to trace a path of hexes free of enemy units and Zones of Control to the unit's HQ.

8.11 Intelligence Markers are removed at the end of a Movement and Combat Phase in which the unit is moved one hex.

CHAPTER 9

COUNTERS

9.1 U.S. Counters

9.1.1 U.S. unit types include: Mechanized Infantry, Tank, and Armored Cavalry. Mechanized Infantry and Tank units occur only as Battalions or Task Forces; Armored Cavalry units occur as Squadrons or as Troops or Tank Companies created by breaking down Squadrons.

9.1.2 U.S. Mechanized Infantry Battalions have:

Offensive Strength - 4
Defensive Strength -11

U.S. Mechanized Infantry Heavy Task Forces have:

Offensive Strength - 5
Defensive Strength -10

U.S. Tank Battalions have:

Offensive Strength - 6
Defensive Strength - 7

U.S. Tank Heavy Task Forces have:

Offensive Strength - 5
Defensive Strength - 8

U.S. Divisional Armored Cavalry Squadrons have:

Offensive Strength - 7
Defensive Strength - 12

U.S. Regimental Armored Cavalry Squadrons have:

Offensive Strength - 10
Defensive Strength - 14

U.S. Mechanized Infantry Companies have:

Offensive Strength - 1

Defensive Strength - 3

U.S. Tank Companies have:

Offensive Strength - 2

Defensive Strength - 2

U.S. Armored Cavalry Troops have:

Offensive Strength - 2

Defensive Strength - 4

9.1.3 Most U.S. units carry a four part designation, e.g., 1/12/4/4. This unit would be indicated to be: the 1st Battalion of the 12th Regiment, assigned to the 4th Brigade of the 4th Division. (NOTE: In this case, the Battalion/ Regiment numbers are the unit's specific identification number; the Brigade/Division numbers indicate its current attachment). Some U.S. Armored Cavalry Units (viz., those which are part of the 11th Armored Cavalry Regiment) carry only two part or three part designations:

2/11 would be the 2nd Squadron of the
 11th Regiment.

4/2/11 would be the 4th Troop of the 2nd
 Squadron of the 11th Armored Cavalry Regiment.

9.1.4 U.S. Headquarters Units:

U.S. HQ's include: Division Main HQ (DIVMAIN);
Division Tactical HQ (DIVTAC);
Division Artillery HQ (DIVARTY);
and Division Support Command HQ (DISCOM)

for each U.S. Division; each divisional HQ would carry a numerical divisional designation, e.g., 3XX DISCOM. U.S. Brigade HQ's carry a two part designation, indicating the number of the brigade and which division it is a part of, e.g., HQ X 4/4 would be the 4th Brigade of the 4th Division. There is one U.S. Regiment HQ: the 11th Armored Cavalry Regiment HQ.

9.1.6 The front side of U.S. HQ units carries a "Deployed" designation, indicating the HQ's Mode Status. The reverse side of U.S. HQ units carries a "March Order" designation, indicating the alternative HQ Mode Status of the unit.

9.1.7 U.S. Leader Counters: There is one U.S. leader counter for the Major General division Commander.

9.2 Soviet Counters

9.2.1 Soviet unit types include: Motorized Rifle, Tank, and Recon. Motorized Rifle and Tank occur only as Battalions or Reinforced Battalions except Recon units, which also occur as companies created by breaking down battalions.

9.2.2 Soviet Motorized Rifle Battalions have:

Offensive Strength - 3
Defensive Strength - 6

Soviet Motorized Rifle Battalions Reinforced (with a Tank Company) have:

Offensive Strength - 4
Defensive Strength - 7

Soviet Tank Battalions have:

Offensive Strength - 3 or 4 (depending on whether
it is a battalion from a Tank or Motorized
Rifle Regiment respectively)
Defensive Strength - 3 or 4 (see comment above)

Soviet Tank Battalions Reinforced have:

Offensive Strength - 4
Defensive Strength - 5

Soviet Recon Battalions have:

Offensive Strength - 2
Defensive Strength - 4

Soviet Motorized Rifle Companies have:

Offensive Strength - 1
Defensive Strength - 2

Soviet Tank Companies have:

Offensive Strength - 1
Defensive Strength - 1

Soviet Recon Companies have:

Offensive Strength - 1
Defensive Strength - 1

9.2.3 Most Soviet units carry a three part designation, indicating the numbers of the Battalion, Regiment, and Division of the unit, e.g., 1/91/27 would be the first Battalion of

the 91th Regiment, which is part of the 27th Division. Soviet Recon Battalions only carry a two number designation, indicating a Battalion number and its divisional affiliation.

9.2.4 Soviet Headquarters Units: Soviet HQ's are the same as U.S, except that the Soviets have four (4) regimental trains counters, one GTA HQ counter, no DISCOM, and regiments rather than brigades. Divisional HQs carry Division number; Regiment HQs carry Regiment Number/Division Number. Front Side: Deployed. Reverse: March Order.

9.2.5 Soviet Leader Counters: There is one Soviet Leader counter for the Colonel General GTA Commander.

9.3 Informational Counters.

9.3.1 Detachment Counters:

Front: A A Reverse: R R

The Detachment Counters are used two at a time to represent the physical expansion of a combat unit in Double or Triple Zone Modes. They carry letter designations, so that you can tell that two detachment counters are related to one another and are part of a given individual combat unit.

9.3.2 Activated Display:

Active

An Active marker in the display book indicates that a unit has refrained from moving and projected its zone of control immediately instead.

9.3.3 Mode Display:

45	+	3
	HA	
3		6

A Mode display indicates which of 11 mode options a combat unit has adopted: HA = Hasty Attack; DA = Deliberate Attack; HD = Hasty Defense; PD = Prepared Defense; MD = Mobile Defense; TM = Tactical Movement; AM = Administrative Movement; R/I: Relief/Infiltration; RS = Reserve; DZ = Double Zone; TZ = Triple Zone. The number in the upper left indicates the shifts a unit in that mode gets when attacking. These can be a "+" or a "-", and because some modes have no offensive capability, these would have an "NA", meaning not allowed. The number in the upper right indicates a defensive shift for that mode. The number in the bottom left is the defensive intelligence value of the mode. The number in the bottom right is the movement allowance that a unit has in that mode.

9.4.4 Rubble Counters:

RUBBLE

Rubble counters indicate the accumulation of debris in city hexes owing to combat having occurred therein.

9.4.5 Fatigue Display:

F

A Fatigue display indicates loss of movement and combat capability as the result of prolonged activity. There are four levels of fatigue: FO, F1, F2, F3. FO is called FO because it is more like preliminary or potential fatigue.

9.4.6 Combat Support Point Markers:

(Art)	(Air)
x1	x5

Combat Support Point markers are used in the display book to indicate allocation to HQ's, and usage of "combat support assets". There are four kinds of CSPs: Artillery, Engineer, Signal, and Air. CSPs have denominational values, like money, so that variable quantities can be indicated and so that one can "make change". Denominations include 1's, 3's, and 5's.

9.4.7 Engagement Display: A "1/2 Engaged" and "Engaged" display represents units' losses of movement and some other capabilities as a result of being attacked.

9.4.8 Table of Organization and Equipment (T/O) Display. Combat units take losses in terms of T/O. The T/O display

uses values from 0 to 6. A unit going below "0" T/O is considered destroyed.

9.4.9 Intelligence Level Display. The Intelligence Level display indicates the level of intelligence gained on given enemy units. Values are from 1 to 4.

9.4.10 Forced March Display. Indicates that a unit has been assigned to undertake "Forced March, Level 1" or "Forced March, Level 2" in a subsequent phase of the player turn.

9.4.11 Out of Command Control Display. Indicate several disadvantages to units which have had their HQ destroyed.

9.3.12 Interdiction Counters. Indicate "interdicted" hex targets.

9.4.13 Ammo Depleted Display. Indicate units disadvantaged in combat because they are running out of ammo, on a die roll of 6, when surrounded by enemy ZOC's.

9.4.14 Identification Display:

(1) (2) (3) (4)

Indicate new HQ attachments of combat units. Brigade or Regiment HQ's are arbitrarily termed #1, #2, #3, or #4.

9.4.15 U.S. and Soviet Combat Differential Track.

One each. Used to record the shifting odds of combat.

9.4.16 U.S. and Soviet Movement Track Markers. One each. Used to keep track of the usage of movement points in moving and/or attacking. This is possible since each unit moves one at a time. This is necessary since a unit can have up to 60 movement points, and can expend them in a combination of moving and carrying out repeated attacks.

9.4.17 Operational Intelligence Level Track.

One each. Used to record the Operational Intelligence Level.

9.4.18 Sector Coverage Ability Track. One each.

Used to record the ability to employ OP INT Level in so many particular map sectors.

9.4.19 Ammunition Point Display.

Used to record ammunition available to HQs and its transfer. Brigade or Regiment HQ as well. Tracks record

this since players can resupply and quantity of ammo points
can go up as well as down.

CHAPTER 10

FATIGUE

10.1 General. Whenever a player attempts to change the mode of a unit, or whenever he moves a unit, the unit must suffer the accumulated effects of fatigue. The degree of fatigue suffered depends on the current Level of Fatigue of the unit as well as the action performed which is causing the fatigue. The Level of Fatigue of a unit may be reduced by resting the unit during a friendly Movement and Combat Phase.

10.2 Procedures. Whenever a unit must be checked for the effects of fatigue the owning player should refer to the fatigue procedure. If the unit is being checked for fatigue as a result of an attempted Mode Change or a movement, then the current Level of Fatigue of the unit has an effect on the further accumulation of fatigue. If the unit is being checked for fatigue as a result of Forced March movement, then only the Forced March Level effects the impact of fatigue. When the player is called upon to use the fatigue table in checking for the effects of fatigue, the Controller rolls one die. The row of the fatigue table corresponding to the number rolled is cross-indexed with the column of the table indicated by the type of action causing the fatigue (and for movement and mode changing the current unit fatigue level).

The result is found in the intersection of row and column on the table. Any effects are applied immediately.

10.2.1 Recording Fatigue Status. As a unit's Fatigue Level changes, the appropriate level of fatigue should be recorded in the status book; at that time all of the relevant effects of fatigue apply.

10.2.2 Effects of Fatigue. The effects of fatigue vary with the Level of Fatigue. Fatigue Level zero has no effect on a unit except for the further accumulation of fatigue. Fatigue levels one through three have an effect on the Combat Differential for any unit involved in combat and currently at those Levels of Fatigue (see 8.4.6.).

10.2.2.1 All units in Fatigue Level three have their Movement Allowance halved, fractions rounded down, and, during the friendly Mode Change Phase, may only make one mode change attempt.

10.2.2.2 In addition to 10.2.2.1 HQ units in Fatigue Level three have their Staff Point Allowance halved, fractions rounded down, and all CSPs attached to the HQ are halved in effectiveness.

10.2.3 Checking for Accumulated Fatigue and Applying Results. Units being checked for fatigue as a result of a mode change attempt or movement must use the fatigue table.

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10.2.3.1 The results from the fatigue table are expressed as additions to the current Fatigue Level of the unit. If the fatigue table is used and the unit being checked has no current fatigue (this could only happen if the unit were using Forced March) then any results are applied as if the unit were in Fatigue Level zero.

10.2.3.2 If as a result of checking for the effects of Fatigue, the additional result from the fatigue table would increase the Fatigue Level over three, then the Fatigue Level is set at three and any difference between the result and three is deducted as a T/O loss to the unit. If the number of T/O Points lost are greater than or equal to the T/O Level of the unit, the unit is eliminated.

CHAPTER 11

UNIT BREAKDOWN AND RECONSTITUTION

11.1 General. Only U.S. Armored Cavalry Squadrons and Soviet Reconnaissance Battalions are capable of breaking down into their subelements.

11.2 Procedures. Unit breakdown or recombination occurs at the end of each players turn. Only the phasing player may break down his own units. There is no cost in Staff Points or Movement Points to breakdown or recombine. Units breaking down or recombining must be in either AM or TM Mode.

11.2.1 Breakdown. Upon a unit's breaking down, four troops or three companies are placed in hexes adjacent to the HQ's hex at the discretion of the owning player. New units produced by breaking down a higher echelon unit may not be placed in a hex with another unit. If there are not enough unoccupied hexes adjacent to the original unit to place all the lower echelon units, the unit may not break down.

11.2.2 Recombination. To be recombined, all subordinate units must be within two hexes of one another. All units created when the higher echelon unit was broken down, which

have not been eliminated, must be recombined at one time. The owning player selects one hex, occupied by a recombining unit, to place the higher echelon unit in. At the same time all lower echelon units being recombined are removed from the game map-board.

11.3 T/O and Fatigue Levels. When breaking down, the T/O Level and Fatigue Level of all new units are set at the same T/O Level and Fatigue Level of the original unit. When recombining, the T/O Level of the higher echelon unit is set equal to the sum of all the T/O Levels of the units being recombined, divided by the original number of units (fractions rounded down). The Fatigue Level of the recombined unit is set equal to the highest Fatigue Level of any of the units being recombined.

CHAPTER 12

ENVIRONMENT

12.1 General

12.1.1 The kinds of environmental effects which can occur are Night, Precipitation, and Fog.

12.1.2 Game turns are considered 8 hours long so that every third game turn is a Night game turn. The Controller will announce which type turn it is prior to each game turn.

12.1.3 Precipitation can occur during any game turn. Fog can occur only during the game turn immediately after a Night game turn (the Morning game turn).

12.1.4 The environmental effects affect the Movement Cost of terrain, combat, and also the effectiveness of Air CSPs. All effects last only one game turn.

12.2 Procedures

12.2.1 At the beginning of each Morning game turn the Controller rolls two dice and uses Table A-18 to find the Fog result. If the result is an "F" than he will announce Fog for that game turn.

12.2.2 At the beginning of any game turn in which there is no Fog the Controller rolls two dice and using Table A-19

to find the Precipitation result. If a "P" is the result then he will announce Precipitation for that game turn.

12.3 Movement Effects of Environment. All Movement effects are expressed as increases to the cost to enter or cross terrain while a given environment is in effect.

12.3.1 Movement Effects of Night. The Movement Point Cost of terrain for combat units deployed in TM are doubled during Night Game turns. The Movement Point Cost of terrain for combat units deployed in AM and HQ units deployed in March Order mode are increased 125%.

12.3.2 Movement Effects of Fog. The Movement Point Cost of terrain for all units is doubled during game turns in which there is Fog for clear, woods, rough, city without rubble, Main Road, Autobahn, and town terrain.

12.3.3 Movement Effects of Precipitation. The Movement Point Cost of non-road terrain for all units is doubled during game turns in which there is Precipitation. If there is Precipitation during a Night game turn, then all off-road Movement Point Costs would be doubled, except for units in TM, AM, or March Order Modes which would expend four times the Movement Point Costs for off-road Movement.

12.4 Combat Effects of Weather and Night. In any Night or Fog game turn a -2 Combat Differential Shift is applied to all combats.

12.5 Effects of Weather and Night on Air CSPs. During any game turn in which there is Night, Fog, or Precipitation, both players must designate a portion of their Air CSPs as grounded. Grounded CSPs may not use used during the game turn in which they are grounded. Player's designate the grounded CSPs at the beginning of the game turn, just after weather has been determined for the turn.

12.5.1 Effects of U.S. Air CSPs. The U.S. player must designate his Air CSPs as grounded, at his choice, during turns in which he must ground Air CSPs, according to the following breakdown:

Fog - 40%

Precipitation - 15%

Night or Night/Precipitation - 25%

12.5.2 Effects on Soviet Air CSPs. The Soviet player must designate his Air CSPs as grounded, at his choice, during turns in which he must ground Air CSPs, according to the following breakdown:

Fog - 65%

Night - 50%

Precipitation - 50%

Night/Precipitation - 60%

12.5.3 Grounded Air CSPs and Transfer. Grounded Air CSPs may not be transferred from the HQ to which they are assigned in a game turn in which they are grounded.

CHAPTER 13

AMMUNITION RESUPPLY

13.1 General. The number of Counter-Battery Fire, Interdiction, Barrage, and FPF missions that Field Artillery and Air CSPs may be used in during the game is limited by the number of ammunition points available. For each Air or Field Artillery CSP which is used in a Counter-Battery Fire, Interdiction, Barrage, or FPF mission one ammunition point must be removed from the ammunition points available to the HQ or trains to which the CSP is attached. If the ammunition points available to the HQ are zero, then none of that HQ's Air or Field Artillery CSPs could be used in the above listed missions. Ammunition points may be transferred during the Asset Transfer Phase just as CSPs are transferred, except that a limited number of ammunition points may be transferred in any Asset Transfer Phase. Ammunition may be resupplied for the players by using the DISCOM unit and the Soviet Trains unit, unless the unit has been eliminated from play. The position of enemy units and Zones of Control may inhibit the transfer of Ammunition Points between two HQ units. During the Asset Transfer Phase of each player turn, the phasing player may transfer ammunition points. To perform the transfer, simply reduce the number of ammunition points available of one HQ and increase the ammunition points available of the other HQ by the same amount.

13.2 Transfer of Ammunition Points. Whenever a Field Artillery or Air CSP is transferred from one HQ unit to another, one ammunition point is transferred with the CSP. If the HQ the CSP is being transferred from has no ammunition points, no ammunition point is transferred with the CSP. Additional ammunition points may be transferred from one HQ to another, but the number of ammunition points being transferred in one division is limited.

13.2.1 No more than 10 ammunition points, other than points being transferred with CSPs, may be transferred within each Soviet division in any one Asset Transfer Phase.

13.2.2 No more than 20 ammunition points, other than points being transferred with CSPs, may be transferred within each U.S. division in any one Asset Transfer Phase.

13.2.3 To be transferred, a path of hexes which are passable to the movement of combat units and which are free of enemy units and Zones of Control must exist between the two HQ units involved in the transfer of ammunition points.

13.3 Resupply of Ammunition Points. In the Asset Transfer Phase any ammunition point which is transferred out of DISCOM or Soviet trains is automatically resupplied. Thus, the ammunition points available are not reduced. If the DISCOM or Soviet trains unit is eliminated, regardless of whether it is subsequently reconstructed, that division or

regiment loses its resupply capability for the remainder of the game.

CHAPTER 14

ELECTRONIC WARFARE

14.1 General. Before each game turn each player rolls a die to obtain EW capabilities (1 to 6). Both players employ their capability against their opponent's combat units. EW attacks can place a unit out of Command Control or may reduce the effectiveness of the unit until the end of the turn.

14.2 Procedure. EW attacks may be executed during any Movement and Combat Phase just before Barrage and FPF Missions are allocated for a combat. At that instant, each player may declare that he is making an EW attack against the enemy unit involved in the combat. Only enemy combat units may be attacked in this manner. One Signal CSP must be allocated to each EW attack by the player making the attack. The controller rolls one die and the row of the EW Table A-22 corresponding to the result is cross indexed with the column corresponding to the EW capability of the player to find the EW attack result. The result is applied immediately.

14.3 EW Attack Results. The results of an EW attack can be fourfold: an effect on the Combat Differential, an effect on the ability of the attacked unit to use CSPs, an effect on the Movement Allowance of the unit, and possibly placing the unit out of Command Control.

14.3.1 The effect of the EW attack on the Combat Differential is detailed on the EW table. The table lists, for each result, a shift to be applied if an attacking unit was subjected to EW as well as a shift to be applied if a defending unit was subjected to EW.

14.3.2 A result of EW2 or EW3 will affect the ability of the unit to use CSPs. The Controller rolls one die if an EW2 or EW3 result is obtained. If the die roll is within the range listed on the EW table for the result obtained, then the unit may use CSPs in the combat, otherwise it cannot.

14.3.3 A result of EW2 will cause the affected unit to have its Movement Allowance halved. If the unit is owned by the currently phasing player, then the number of movement points to the unit are immediately halved (after removing the movement points expended for the combat currently under way). If the unit is owned by the non-phasing player, then the movement allowance of the unit is halved in the next Movement and Combat Phase of the owning player.

14.3.4 A result of EW3 will cause the unit to be out of Command Control. This loss of Command Control will last until the end of the owning player's turn (if the phasing player owns the unit, then the end of the current player turn, otherwise to the end of the next player turn). If the phasing

player owns the unit, then the Movement Allowance is immediately halved (just as in an EW2 result). If the phasing player owns the affected unit, then the shift for the EW3 result is applied to all combats involving the unit as long as the EW3 Marker is on the unit.

CHAPTER 15

THE COMMANDER

15.1 General. The GTA and U.S. division commanders are represented in the game by counters placed on the game mapboard. The Commander has three personal abilities which enable him to exert an influence on the combat operations of his unit: Perception, Organization, and Command. His level of Perception ability is the functional measurement of the Commander's "smarts", his ability to grasp what's going on around him. His Organization ability level is the functional measurement of his ability to use his resources in an efficient manner so as to maximize their productivity. His Command ability is the functional measurement of the Commander's ability to use leadership (charisma) to elicit superior performance in combat from his officers and men. Average values are played in this version.

15.2 Each game turn, the Commander has ten action points available to perform various functions. The Commander may utilize Perception, Organization, and Command abilities as actions, but each of them may be used successfully only once in a game turn. These action points are expended by any activity of the Commander. The Commander Activity Costs Table A-23 lists the activities which expend action points and how many points are expended by each. The activities are: using Perception, using Organization, and using Command.

15.2.1 The number of action points of a Commander may be increased for one turn at the expense of additional fatigue (see 15.6).

15.2.2 Within the above, the Commander may not perform activities for which he does not have sufficient action points to expend.

15.3 Use of Perception. The Commander's Perception can be used to improve his unit's Operational Intelligence functioning through enhanced Sector Coverage Ability. During each game turn in which Operational Intelligence is conducted by a GTA or division, that unit's Commander may attempt to increase his unit's Sector Coverage Ability. To do this, the Controller uses the Commander's Perception Level with the Personal Success Table A-24 to achieve a "Success". If a "Success" result is achieved the Sector Coverage Ability of the unit is increased by +4.

15.3.1 If an attempt to achieve a "Success" result fails, then the player may try again, expending an additional two action points for each attempt. Once a "Success" is achieved, however, the player may not try again in that game turn.

15.4 Use of Organization. The Commander's Organization Ability may be used to increase the Staff Point Allowance of one HQ of the Commander's unit. The Commander must be in

the hex with the HQ to increase its Staff Point Allowance. The controller uses the Commander's Organization Level with the Personal Success Table to achieve an "S", "L", or "P" result. After this, if one of those results was achieved, one die is rolled. Depending on the exact result, this die roll determines how many points by which the Staff Point Allowance is increased.

15.4.1 If an "S" result is achieved, any divisional HQ or the GTA HQ has its Staff Point Allowance increased by triple the die roll. Any brigade or regiment HQ has its Staff Point Allowance increased by double the die roll.

15.4.2 If an "L" result is achieved, any divisional HQ or the GTA HQ has its Staff Point Allowance increased by double the die roll. Any brigade or regiment HQ has its Staff Point Allowance increased by one and one half times the die roll (fractions dropped).

15.4.3 If a "P" result is achieved, any HQ has its Staff Point Allowance increased by the amount of the die roll.

15.5 Use of Command. The Commander's Command ability may be used to shift the Combat Differential of combats involving units of his command. The Commander's Organization Level is used with the Personal Success Table to achieve an "S", "L", or "P" result. If one of these is the result, a shift of

varying amount is applied to combats involving units of the Commander's command.

15.5.1 If the Commander is in a hex with one of his division, brigade, or regimental HQ's then all attached units of the HQ receive a shift for the entire Movement and Combat Phase in which command is used. The amounts are:

"S" result = shift 5 in unit's favor.

"L" result = shift 3.

"P" result = shift 1.

15.5.2 If the Commander is in a hex with a battalion or company (or troop) of his command then that unit receives a shift for the entire Movement and Combat Phase in which command is used. The amounts are:

"S" result = shift 10 in unit's favor.

"L" result = shift 6.

"P" result = shift 2.

15.6 Commander Fatigue. The Commander suffers fatigue in much the same manner as combat and HQ units. At the end of any game turn in which a Commander expends action points, the Level of Fatigue of the Commander is adjusted. At the end of any game turn in which a Commander expends no action points, all fatigue is removed from the Commander.

15.6.1 At the end of a game turn in which a Commander with no fatigue at all expends action points, a fatigue

level of zero is placed on the Commander. FO has no effect on the functioning of the Commander (exception see 15.6.2 and 15.6.4).

15.6.2 At the end of a game turn in which a Commander with a fatigue level expends action points the Controller will roll for the effects of fatigue. The column of the fatigue table used depends on how many action points were expended in the game turn. If the Commander did not expend more than his allowance of action points, then the left most column of the fatigue table is used, regardless of the current fatigue level of the Commander.

15.6.3 At the end of a game turn in which a Commander expends up to one and one half times his normal action point allotment for a game turn, regardless of the presence of fatigue, he uses the same column of the fatigue table as units performing Forced March, Level 1.

15.6.4 At the end of a game turn in which a Commander expends up to twice as many action points as his normal allotment for a game turn, regardless of the presence of fatigue, he uses the same column of the fatigue table as units performing Forced March, Level 2.

15.7 Effects of Fatigue on the Commander. The various levels of fatigue have different effects on the functioning of the Commander.

15.7.1 FO fatigue level has no effect on the functioning of the Commander

15.7.2 A Commander at Fatigue Level F1 must pay double the normal number of action points to perform any activity. In addition, all "S" results on the Personal Success Table are treated as "L" results, and all "L" results are treated as "P" results. All "P" results are treated as No Effect.

15.7.3 A Commander at Fatigue Level F2 must pay double the normal number of action points to perform any activity. In addition, all "S" results are treated as "P" results, and all "L" and "P" results are treated as No Effect.

15.7.4 A Commander at Fatigue Level F3 must pay triple the normal number of action points to perform any activity. In addition, all "S" results are treated as "P" results and all "L" and "P" results are treated as No Effect.

15.7.5 Any Commander who is fatigued beyond Fatigue Level F3 is considered incapacitated for the remainder of the game and is immediately removed from the gameboard.

15.8 Commander Casualties and Replacement. Whenever the Commander is in a hex with a unit which suffers a T/O Loss, there is a chance the Commander will become incapacitated.

15.8.1 To determine if the Commander is incapacitated the controller rolls one die. If the result is a six, the Commander is incapacitated.

15.8.2 Whenever a Commander becomes incapacitated for any reason, a new Commander is created with the same abilities as the old Commander.

15.8.3 The newly created Commander is placed in any hex occupied by a unit of his command.

15.9 The Commander must expend one Air CSP for any movement away from his HQ. He can move only during the Asset Transfer Phase.

CHAPTER 16

PLAYER NOTES

16.1 Modes and Unit Breakdown

16.1.1 Players must always be conscious of what modes their units are in. Modes are not just a neat way of varying the combat and movement characteristics of units - each mode represents a specific operational posture, with definite strengths and weaknesses, pointed toward a definite "mission". Players who forget that "each mode has a mission" will soon begin using units for tasks for which they are ill suited. At best this is sufficient; at worst it can lose a battle that ought to have been won. A player who uses a Soviet Motor Rifle Regiment in AM mode as if it were an SS Panzer Division in DA is in for a rude surprise, as is one who thinks that a U.S. Armored Cavalry troop in TZ will stop a Guards Tank Division.

16.1.2 Particular attention must be paid to the fact that units cannot always switch from one mode directly into any other. Time and staff points are severely limited. It is often more productive to tailor one's tactics to suit the mode one's units are put in by doctrine rather than vice versa.

16.1.3 This does not mean, of course, that mode-shifting is either impossible or undesirable--certain

operations require it, and a judicious shift can often provide the edge needed to convert a near miss into a close but definite success. Players should not, however, base important plans on a naive expectation that modes may be shifted either rapidly or often. Mode-shifting is a calculated risk, and ought to be calculated before being risked; one should keep an eye out for opportunities, but not depend on them. Planning should be flexible enough to allow units sufficient time to change into the required modes, and to cope with the situation if shifting is not successful.

16.1.4 Players ought to develop an appreciation of the different mode shift costs and the probabilities involved, since rarely will enough staff points be available to shift all units automatically. A sharp eye must be kept on HQs, to insure their presence within the necessary five hexes to assist mode shifts; as well as to apply CSPs. The ability of Recon units to mode-shift at any range from an HQ is a good trick to remember, as is mode-shifting to remove a unit in DZ or TZ mode from an enemy zone of control.

16.2 Movement and Combat.

16.2.1 The use of movement and combat in the same phase demands foresight and advance planning from players. Movement and combat must be carefully "orchestrated" to yield the most efficient use of force and momentum. It makes

little sense to dash up to an enemy unit only to sit there looking foolish without enough movement points left to attack. The unit can attack at full power next turn, but in the mean time the defender has all the option; a poor return for having forfeited all surprise advantage. The other fellow knows precisely which units are to be hit; he can withdraw, move up reinforcements, or get tactical intelligence on the attacking unit.

16.2.2 A better procedure, requiring the same two turns, uses the first to "marshal" the attacking units about five hexes away from the enemy line, with their headquarters another three or four hexes farther back, ready to supply staff points and CSPs. This allows a bit of surprise advantage while leaving sufficient movement points after the enemy line is contacted to get in a good attack or two. The biggest advantage is the opportunity to bring up and deploy HQ units; the advantage of CSPs can be quite telling on both the attack and the defense.

16.2.3 Of course, a player will often not have enough time to perform such a "set piece" attack. March order attacks are usually a bad idea, but if you simply have to, bear in mind that surprise advantage will often mitigate or even compensate for march order attack disadvantage.

16.2.4 The sequential movement systems means that it is very important which unit moves first. Just because a

unit is in the lead on the road doesn't necessarily mean it ought to be first in the player's hand during his turn. Whenever possible, before moving, figure out where each unit is to end up before moving anyone, and then move each unit in its proper order. Use of higher-echelon support assets is crucial; the player who doesn't keep a close watch on what his HQ units are doing is a fool. When making an attack, moving the HQ unit first will insure that artillery and tactical air support will not be out of range when that tank battalion hits the line. As in all else, planning and foresight will be well rewarded.

16.2.5 Forced march is a last-resort tactic--another risk that must be calculated. If there's a great hole in the line, whether yours or the other fellow's, and there's either no other way to save the situation or to take advantage of a priceless opportunity, then go for it. Ordinary fatigue is bad enough.

16.2.6 Players are cautioned not to develop "road fixation," as can so easily happen in a game using a lot of mechanized units. Significant movement can occur off of roads, and the most usual modes all have sufficient movement allowance to take advantage of it.

16.2.7 Fatigue, in addition to being realistic, is important. Nothing is more galling than to have to let

units sit idle for a turn or two, but it sure beats having them blown away due to a bad fatigue differential. On the other hand, it's also possible to use attacks by weak units to increase enemy fatigue; every little bit helps.

16.3 Weather and Terrain. Everyone is used to taking advantage of terrain, but weather can be just as useful (or annoying, depending on one's point of view). Night is a good time for resting units, as well as for "marshalling" attacks to take place the next day. A "rough 2" hex overlooking a road junction is a great place for a small unit, or one in Triple Zone, to impede anyone hoping to dash down the road - this is especially madding to anyone with "road fixation". In fact, most blocking forces are most useful in unclear terrain within a hex of a road; ordinarily units ought never to be put on roads themselves.

16.4 Intelligence. Operational Intelligence takes a bit of manipulation to do properly--generally the situation itself will suggest which a player needs more, high intelligence or large sector coverage. It is often possible to devote all one's intelligence CSPs to increasing Intelligence Level before contact is made with the enemy, then to throw everything into sector coverage once a decent intelligence level is attained.

16.5 Combat Support Points. Nothing contributes more to winning than use of CSPs. Unless one is attempting to run over a wandering headquarters unit, an unsupported attack is a desperate thing. Thus the importance of properly positioning one's headquarters units; this also, of course, makes HQ units very inviting targets. Players ought to pay close attention to which CSPs are good for what, since they are not homogeneous. Air and signal CSPs are vital for gaining Operational Intelligence; while a clever bit of interdiction can mitigate the effects of too few units attempting to cover too much ground.

16.6 On the offensive, the most generally useful modes are AM and TM. The former corresponds to Soviet doctrine for the deployment of attacking forces, the latter to U.S. doctrine. AM mode makes possible rapid penetration of the enemy position but is frequently costly to the attacker, requires large amounts of artillery support and is vulnerable to counterattack. TM mode is far better balanced; indeed, it such a good all-around deployment that a unit should never be shifted out of it without a good reason. One of the great Soviet handicaps is that TM mode often cannot be used; on offense, the prescribed Soviet objectives are usually too ambitious to allow anything except AM mode, while TM mode cannot be used effectively on defense because Soviet doctrine allows FPFs to be allocated only to units in PD mode without range restrictions.

Despite their names DA and HA modes are not the most common or the most useful modes for an attacker. DA mode should be employed only against heavily defended strong-points and then only when time is no object and avoidance of casualties is. HA mode is an inferior version of DA mode. It should be used only by units that are forced to adopt it and in situations where DA mode would be used but is too difficult to shift into.

On defense, the mode of choice for the U.S. is TM mode and for the Soviets MD mode. RS mode is sometimes useful, because it is relatively easy to shift into. Soviet troops confronted by a sudden U.S. counter-offensive may not want to attempt a direct shift from AM mode to MD mode with the risk of being left helplessly in AM. An alternative is to shift to RS mode, which gives a decent -1 shift in the defender's favor, then go into MD mode on a subsequent turn.

DZ and TZ modes are virtually immobile modes designed to hold extended lines. Unless supported by CSPs, they are rather easily broken. Therefore, one should never rely on a single line. A good place for a line is behind the main force to stop enemy penetrations of the main line of resistance from galloping off the other side of the map.

PD and HD modes are not general purpose defensive modes. Their primary use is to defend strongpoints. As a general rule, a unit should be placed in one of these modes only if the owning player is content to allow it to remain

in the same position for the entire scenario. Once in a while, if the staff points are available, it may be worthwhile to place a seriously depleted unit into HD or PD mode in hopes of insuring its survival.

R/I mode is really intended for static situations, where the FEBA is clogged with units and it is necessary either to relieve weakened front line battalions or to sneak through an enemy line. In the more open positions typical of NDC, it may be employed once in 20 games to free a unit from enemy zones of control.

The benefits and drawbacks of the two headquarters modes are obvious. Choosing correctly between mobility and CSP punch is essential if one is to play better than a novice game of NDC.

ANNEX A

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INTELLIGENCE TABLE A-3

<u>Die Roll</u>	<u>Intelligence Differential</u>													Intelligence Degree
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12 or more</u>	
1	2	2	3	3	3	3	4	4	4	4	4	4	4	
2	1	2	2	2	3	3	3	3	3	3	4	4	4	
3	1	1	1	1	1	2	2	2	2	3	3	4	4	
4	-	1	1	1	1	1	1	2	2	2	3	3	4	
5	-	-	-	-	-	1	1	1	2	2	2	3	3	
6	-	-	-	-	-	-	-	-	2	2	2	2	3	

NOTES:

- = No intelligence gained. No effect.
- # = The Degree of Intelligence gained. Place an appropriate Intelligence Marker on the unit affected.

STAFF POINT EFFECTS TABLE A-4

<u>EFFECT</u>	<u>RESULT</u>
HQ in March Order Mode	Staff Point Allowance halved.
HQ in Fatigue Status F3	Staff Point Allowance halved.
Combat unit more than 5 hexes from controlling HQ (except Recon)	Staff Point cost doubled.
HQ unit 1/2 Engaged	Staff Point Allowance halved.
HQ unit Engaged	Staff Point Allowance zero.

NOTES:

Each of these effects is cumulative. Any fractions are dropped after all effects are applied.

MODE CHANGE COSTS TABLE A-5

Changing To:	AM	TM	DZ	TZ	RS	HD	MD	PD	R/I	HA	DA	MO	DP
From:													
AM	-	10	15	20	4	7	12	15	10	7	17	-	-
TM	9	-	5	10	4	3	12	11	6	7	17	-	-
DZ	15	6	-	5	10	9	18	17	12	13	23	-	-
TZ	20	11	5	-	15	14	23	22	17	18	28	-	-
RS	5	6	11	16	-	3	8	11	6	3	13	-	-
HD	9	10	15	20	4	-	12	8	6	7	17	-	-
MD	9	10	15	20	4	3	-	8	9	7	17	-	-
PD	9	10	15	20	4	3	12	-	9	7	17	-	-
R/I	9	10	15	20	4	3	12	8	-	3	13	-	-
MA	9	10	15	20	4	3	12	11	9	-	10	-	-
DA	12	13	18	23	7	6	15	14	12	3	-	-	-
MO	-	-	-	-	-	-	-	-	-	-	-	-	5
DP	-	-	-	-	-	-	-	-	-	-	-	5	-

MODE CHANGE TABLE A-6

POINTS AVAILABLE	POINTS NEEDED										51+
	1-2	3-4	5-6	7-8	9-10	11-15	16-20	21-25	26-30	31-40	
1	3-8	6-7	4-5	5	5	5	5	-	-	-	-
2		2-7	3-6	6-7	4-5	4-5	5	5	5	5	5
3		2-10	4-7	3-6	6-7	4-5	4-5	5	5	5	5
4			3-8	4-7	3-6	6-7	6-7	4-5	5	5	5
5			2-10	3-8	4-7	3-6	6-7	4-5	4-5	5	5
6			2-10	3-8	4-7	3-6	6-7	4-5	4-5	5	5
7				2-10	3-8	4-7	3-6	6-7	6-7	4-5	4-5
8					2-9	2-7	3-6	6-7	6-7	4-5	4-5
9					2-10	3-8	4-7	3-6	6-7	4-5	4-5
10						2-9	2-7	3-6	6-7	4-5	4-5
11						2-9	2-7	3-6	6-7	4-5	4-5
12						2-10	3-8	4-7	3-6	6-7	4-5
13							3-8	2-7	4-7	3-6	6-7
14								2-7	4-7	3-6	6-7
15								3-8	4-7	3-6	6-7
16								3-8	2-7	4-7	3-6
17								3-8	2-7	4-7	3-6
18								2-9	3-8	4-7	3-6
19								2-9	3-8	4-7	3-6
20								2-10	3-8	2-7	3-6
21-25									2-9	3-8	4-7
26-30										2-9	2-7
31-35										2-9	2-7
36-40										2-10	3-8
41-50											2-9
											8-9

CSP MISSION CAPABILITY TABLE A-7

<u>MISSION</u>	<u>CSP TYPE</u>			
	<u>Artillery</u>	<u>Air</u>	<u>Engineer</u>	<u>Signal</u>
OPERATIONAL INTELLIGENCE	NO	YES	NO	YES
MODE CHANGE	NO	NO	NO	YES
COUNTER-BATTERY FIRE	YES	YES	NO	YES*
INTERDICTION	YES	YES	YES	NO
BARRAGE	YES	YES	YES	YES*
FINAL-PROTECTIVE-FIRE	YES	YES#	YES	NO
ELECTRONIC WARFARE	NO	NO	NO	YES

NOTES:

YES - Indicates that the type of CSP may perform the Mission.

NO - Indicates that the type of CSP may not perform the Mission.

* - Indicates that the type of CSP may only perform if the other types of CSPs are present in the Mission.

- The Soviet player may not use Air CSPs in an FPF Mission.

COUNTER-BATTERY FIRE TABLE A-8

INTELLIGENCE

CSPs ASSIGNED

<u>DEGREE</u>	1,2	3,4	5,6	7,8	9,10	11,12	13..15	16..20	21 or more
1	-	-	-	-	-	-2	-1	-1	-1
2	-	-	-	-	-2	-1	0	+1	+2
3	-	-	-2	-1	0	+1	+2	+3	+4
4	-2	-1	0	+1	+2	+3	+4	+5	+6

SUPPORT SHIFT RESULTS TABLE A-9

COMBAT SUPPORT DIFFERENTIAL:		-7 or	-6,-5	-4,-3	-2,-1	0	1,2	3,4	5,6	7,8	9,10	11..15	16 or more
DIE ROLL:		less											
1	-4	-3	-3	-2	-	+1	+2	+3	+4	+4	+5	+5	
2	-4	-4	-3	-3	-1	-	+1	+2	+3	+3	+4	+5	
3	-5	-4	-4	-3	-2	-1	-	+1	+2	+2	+3	+4	
4	-6	-5	-4	-4	-2	-1	-	+1	+2	+2	+2	+3	
5	-7	-6	-5	-4	-3	-2	-1	-	+1	+2	+2	+2	
6	-8	-6	-5	-5	-4	-3	-2	-1	-	+2	+2	+2	

CSP EFFECTS TABLE A-10

<u>EFFECT</u>	<u>RESULT</u>
Controlling HQ in March Order	CSP Effectiveness halved.
Controlling HQ in Fatigue Status F3	CSP Effectiveness halved.
Controlling HQ 1/2 Engaged	CSP Effectiveness halved. May only be used in HQ FPF.
Controlling HQ Engaged	CSP Effectiveness negated except HQ FPF
CSP transferred this turn.	CSP Effectiveness halved.
CSP in Barrage or FPF for combat unit not attached to same HQ	CSP Effectiveness halved.

TERRAIN EFFECTS AND MOVEMENT COSTS TABLE A-11

<u>TERRAIN</u>	<u>MOVEMENT POINT COST</u>	<u>COMBAT EFFECT</u>
Clear	1	No Effect
Woods	2	-2
Rough 1	3	-1
Rough 2	4	-3
Main Road	1/2	as per other terrain in hex
Autobahn	1/2	as per other terrain in hex
Town	1	-2
City without Rubble	1	-3
City with Rubble	3	-3
Lake	Prohibited	NA
Minor River	1	-1
Major River	3	-3
Bridge	No Additional Cost	-2
Medieval Fortress	4	-6
Airfield	No Effect	No Effect
Quarry	Prohibited	NA

(Continued on next page)

TERRAIN EFFECTS AND MOVEMENT COSTS TABLE A-11 (CONT)

Initial Attack on enemy unit	+10
Unprepared Attack on enemy unit	+ 5
Subsequent Attacks	+ 5
Attacks on Overrun unit	+ 2
Attacks on HQ units	+ 2
Move through Zone of Control	+10

MOVEMENT ALLOWANCE EFFECTS TABLE A-12

<u>ACTION OR STATUS</u>	<u>MOVEMENT ALLOWANCE EFFECT</u>
Fatigue Level 3 (F3)	Halved
Changed Mode in same player turn	Halved
1/2 Engaged	Halved
Engaged	No Movement
Command Control Loss	Halved
EW 2	Halved
EW 3	Halved
Forced March, Level 1	Multiply by 1.5
Forced March, Level 2	Multiply by 2

NOTES:

All of the above effects are cumulative. Each effect is applied to the Movement Allowance separately, and when all relevant effects have been applied, then any remaining fractions are dropped.

SURPRISE TABLE A-13

<u>DEFENDER'S</u>	<u>ATTACKER'S INTELLIGENCE LEVEL:</u>				
<u>INTELLIGENCE</u>	NONE	1	2	3	4
<u>LEVEL:</u>					
NONE	+2	+1	-	-2	-4
1	+3	+2	+1	-1	-2
2	+4	+3	+2	-	-1
3	+5	+4	+2	+1	-
4	+6	+5	+4	+2	-

NOTES:

- Indicates no shift at all. All other results indicate that the stated shift is applied to the Combat Differential.

ATTACK ABORT TABLE A-14

DIE ROLL	<u>FINAL COMBAT DIFFERENTIAL</u>					
	-10 or less	-9	-8	-7	-6	-5
1	A	-	-	-	-	-
2	A	A	-	-	-	-
3	A	A	A	-	-	-
4	A	A	A	A	-	-
5	A	A	A	A	A	-
6	A	A	A	A	A	A

NOTES:

- A Attack Abort. Attacker must lose two T/O Points and Retreat.
- The attack is properly made, to resolve it use the -4 column of the Basic Combat Results Table.

OVERRUN TABLE A-15

DIE ROLL

FINAL COMBAT DIFFERENTIAL

	+7	+8	+9	+10	+11	+12 or more
1	0	0	0	0	0	0
2	-	0	0	0	0	0
3	-	-	0	0	0	0
4	-	-	-	0	0	0
5	-	-	-	-	0	0
6	-	-	-	-	-	0

NOTES:

0 Overrun.

- Combat must be resolved, using the +6 column of the Basic Combat Results Table.

BASIC COMBAT RESULTS TABLE A-16

DIE ROLL

FINAL COMBAT DIFFERENTIAL

	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6
1	A3	A1	D2	D2	D3	D3	D4	D4	D4	D4	D4
2	A4	A1	D2	D2	D3	D3	D3	D4	D4	D4	D4
3	A4	A2	D1	D1	D2	D3	D3	D3	D4	D4	D4
4	A4	A3	D1	D1	D2	D2	D3	D3	D3	D4	D4
5	A4	A4	A1	D1	D1	D2	D2	D3	D3	D3	D4
6	A4	A4	A2	A1	D1	D1	D2	D2	D3	D3	D3

NOTES:

Each of the named results indicates a column of the Modified Combat Results Table. Whenever the Basic Combat Results Table is used, the player must continue to the Modified Combat Results Table. The only purpose of the Basic Combat Results Table is to find the column of the Modified Combat Results Table to be used to resolve the combat.

MODIFIED COMBAT RESULTS TABLE A-17

DIE ROLL:

BASIC COMBAT RESULTS

	A4	A3	A2	A1	D1	D2	D3	D4
1	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
2	2/1	2/2	2/2	2/2	2/2	2/2	2/2	1/2
3	2/1	2/1	2/1	2/1	1/2	1/2	1/2	1/2
4	2/-	2/-	2/1	1/1	1/1	1/2	-/2	-/2
5	2/-	2/-	1/-	1/1	1/1	-/1	-/2	-/2
6	2/-	1/-	1/-	1/-	-/1	-/1	-/1	-/2

NOTES:

Attacker Effect/Defender Effect. The indicated number is the T/O Loss to the affected unit.

COMBAT DIFFERENTIAL TABLE A-18

<u>EFFECT</u>	<u>ATTACKER</u>	<u>DEFENDER</u>	<u>GENERAL</u>
Surprise	N/A	N/A	Table A-13
Terrain	N/A	N/A	Table A-11
T/O	N/A	N/A	Subtract attacker's T/O from defender's T/O
Mode	N/A	N/A	Use shift on markers as per 8.4.3 & Table A-27
Adjacency			
Each Attacker's +2 Unit		N/A	N/A
Each Defender's N/A Unit		-1	N/A
C2 Loss -8		+4	N/A
Unprepared Attack -2		N/A	N/A
Fatigue			
FO	No Effect	No Effect	N/A
F1 -2		+1	N/A
F2 -5		+2	N/A
F3 -8		+3	N/A
Night	N/A	N/A	-2
Fog	N/A	N/A	-2
Electronic Warfare			
EW3 -8		+4	N/A
EW2 -6		+3	N/A
EW1 -5		+2	N/A
GTA or Division Commander at Bri- gade/Regiment HQ using Command			
S +5		-5	N/A
L +3		-3	N/A
P +1		-1	N/A

COMBAT DIFFERENTIAL TABLE A-18 (CONT)

GTA or Division
Commander w/
Combat Unit
Using Command

S +10
L + 6
P + 2

-10
- 6
- 2

N/A
N/A
N/A

Combat Support N/A

N/A

Apply result from
Table A-9

FATIGUE TABLE A-19

<u>DIE ROLL</u>	<u>MODE CHANGE OR MOVEMENT</u>		<u>FORCED</u>	<u>FORCED</u>
	Unit is in:		<u>MARCH,</u>	<u>MARCH,</u>
	(FO)	(F1-F3)	<u>LEVEL 1</u>	<u>LEVEL 2</u>
1	-	1	1	2
2	-	1	1	2
3	1	1	2	3
4	1	1	2	3
5	1	2	2	3
6	2	2	3	3

NOTES:

- No effect. There is no additional Fatigue.

That number of Fatigue Levels is added to the unit being checked. See 9.2.3.

FOG DETERMINATION TABLE A-20

DIE ROLL

SEASON: AUGUST

2	F
3	-
4	-
5	-
6	-
7	-
8	-
9	-
10	-
11	-
12	F

KEY:

- Clear. No Fog this game turn.
- F Fog. Fog weather conditions apply to the entire map for this game turn.

PRECIPITATION TABLE A-21

DIE ROLL	<u>AUGUST</u>
2	P
3	P
4	P
5	P
6	P
7	-
8	-
9	-
10	-
11	-
12	-

NOTES:

- Clear. No precipitation this game turn.
- P Precipitation. In summer, fall, or spring this is Rain.
In winter this is Snow.

ELECTRONIC WARFARE TABLE A-22

<u>DIE ROLL</u>	<u>EW CAPABILITY</u>					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
1	-	EW1	EW1	EW2	EW2	EW3
2	-	EW1	EW1	EW2	EW2	EW3
3	-	EW1	EW1	EW2	EW2	EW3
4	-	EW1	EW1	EW2	EW2	EW3
5	EW1	EW1	EW1	EW2	EW3	EW3
6	EW1	EW1	EW2	EW2	EW3	EW3

NOTES:

- No effect.

EW# An Electronic Warfare result

EFFECTS OF EW RESULTS:

<u>RESULT</u>	<u>USE OF CSPs</u>	<u>MOVEMENT ALLOWANCE</u>	<u>ATTACK SHIFT</u>	<u>DEFENSE SHIFT</u>
EW1	No Effect	No Effect	-5	+2
EW2	1-4	Halved	-6	+3
EW3	1,2	Halved*	-8*	+4*

* The unit is out of Command Control. These effects are for loss of Command Control, there is no additional effect of EW3.

DIVISION COMMANDER ACTIVITY COSTS TABLE A-23

<u>ACTIVITY</u>	<u>ACTION POINT COST</u>
Use Perception	2
Use Organization	4
Use Command	4

PERSONAL SUCCESS TABLE A-24

<u>DIE ROLL</u>	<u>CAPABILITY LEVEL</u>
2	L
3	L
4	L
5	P
6	S
7	S
8	P
9	P
10	P
11	P
12	P

NOTES:

P Success Possible.

L Success Likely.

S Success Certain.

A "Success" result may be obtained after using the above table by applying the achieved result to the following table.

(continue on next page)

PERSONAL SUCCESS TABLE RESULTS

<u>DIE ROLL</u>	<u>P</u>	<u>L</u>	<u>S</u>
1	Success	Success	Success
2	Success	Success	Success
3	-	Success	Success
4	-	Success	Success
5	-	-	Success
6	-	-	Success

NOTES:

Success: A Success result has been achieved.

- : No result, or in other words, a failure.

MODE COMBAT SHIFT TABLE A-25

		1	2	3	4	5	6	7	8	9	10	11	
ATKR		AM	TM	DZ	TZ	RS	HD	MD	PD	R/I	HA	DA	
	DA	0	+2	0	-1	NA	NA	+4	-2	0	-7	-8	DA
D	HA	+1	+3	+1	0	NA	NA	+5	-1	+1	+8	+9	HA
E	HD	-5	-3	-5	-6	NA	NA	-1	-7	-5	+2	+3	HD
F	MD	-3	-1	-3	-4	NA	NA	+1	-5	-3	+4	+5	MD
E	PD	06	-6	-8	-9	NA	NA	-4	-10	-8	-1	0	PD
N	R/I	-3	-1	-3	-4	NA	NA	+1	-5	-3	+4	+5	R/I
D	TM	-2	0	-2	-3	NA	NA	+2	-4	-2	+5	+6	TM
E	RS	-3	-1	-3	-4	NA	NA	+1	-5	-3	+4	+5	RS
R	TZ	+3	+5	+3	+2	NA	NA	+7	+1	+3	+10	+11	TZ
	AM	+4	+6	+4	+3	NA	NA	+8	+2	+4	+11	+12	AM
	DZ	+1	+3	+1	0	NA	NA	+5	-1	+1	+8	+9	DZ

ANNEX B-2

GAME VARIABLES

ANNEX B-2

GAME VARIABLES

SUMMARY OF COMBAT SUPPORT POINTS (CSPs), AMMUNITION POINTS (APs)STAFF POINT ALLOWANCES (SPAs)SOVIET FORCESOMDELIBERATE ATTACKMULTIPLE PENETRATION

		<u>CSPs</u>			<u>APs</u>	<u>SPA</u>		<u>CSPs</u>			<u>APs</u>	<u>SPA</u>
	<u>FA</u>	<u>SIG</u>	<u>EN</u>	<u>AIR</u>			<u>FA</u>	<u>SIG</u>	<u>EN</u>	<u>AIR</u>		
1 GTA	5	2	16	18	756	39	5	1	7	18	756	18
27 M	3	2	3	5		5	3	2	6	3		8
27 T						1						1
27 AR					263	1					197	1
91 R	4	1	1	0		1	3	1	1	0		2
91 T					132	1					99	1
92 R	4	1	1	0		1	3	1	1	0		2
92 T					132	1					99	1
93 R	2	1	1	0		1	2	1	1	0		2
93 T					66	1					66	1
94 R	1	1	1	0		1	1	1	1	0		1
94 T					32	1					32	1
7 M	3	2	3	4		5	3	2	6	3		8
7 T						1						1
7 AR					230	1					198	1
25 R	2	1	1	0		1	3	1	1	0		2
25 T					66	1					66	1
26 R	2	1	1	0		1	2	1	1	0		2
26 T					66	1					32	1
27 R	1	1	1	0		2	1	1	1	0		2
27 T					66	1					32	1
28 R	1	1	1	0		1	1	1	1	0		2
28 T					32	1					32	1
11 M	5	1	3	0		5	3	2	6	3		8
11 T						1						1
11 AR					165	1					198	1
33 R	0	1	1	0		1	2	1	1	0		2
33 T					0	1					66	1
34 R	0	1	1	0		1	1	1	1	0		2
34 T					0	1					33	1
35 R	0	1	1	0		1	1	1	1	0		2
35 T					0	1					33	1
36 R	1	1	1	0		1	1	1	1	0		2
36 T					33	1					33	1

TOTALS

1 GTA	35	19	27	2039	84	35	19	37	27	2039	84
27th MRD	14	6	5	625	15	12	6	10	3	493	22
7th TD	10	6	4	460	15	10	6	10	3	427	22
11th TD	6	5	0	198	15	8	6	10	3	363	22

U.S. FORCES

	<u>FA</u>	<u>CSPs</u> <u>SIG</u>	<u>EN</u>	<u>AIR</u>	<u>APs</u>	<u>SPA</u>
8 MID Main						
1		19	10	11		8
Tac						2
ARTY						2
DISCOM					304	2
1 BDE						
4		2	2	2	152	4
2 BDE						
4		2	2	2	152	4
3 BDE						
4		2	2	2	152	4

Notes:

FA	-	Field Artillery CSPs
SIG	-	Signal CSPs
EN	-	Engineer CSPs
AIR	-	Air CSPs
M	-	Main HQ
T	-	TAC HQ
AR	-	Div Arty HQ
R	-	Regt HQ
T	-	Regt TRAINS

ANNEX B-3

CONTROLLER CHECKLIST

ANNEX B-3

CONTROLLER CHECKLIST

STEPS

PRE-TURN ONE

1. Provide Enemy and Friendly Situations...issue FRAG ORDs including Mission Statement and Concept of Operation.

2. Issue game books and describe game boards.

TURNS (REITERATIVE...RED GOES FIRST)

1. Update Game Turn (if the Blue player just finished; if not go to Step 4)...announce type of game turn.

2. Determine Weather (if a morning turn 2 or 12... Fog; if no Fog 2-6...Rain)...announce.

3. Determine EW values.

INTELL PHASE

4. Conduct TAC INTELL.

- receive requests/record
- check adjacency and engaged status
- use Table A-3
- provide report
- set up controller display w/Intell Markers; monitor playerboard

5. Conduct OP INTELL

- player sets sector coverage w/CSPs (which can be increased with the Commander by 4 sectors). If successful assess Activity points Assess Fatigue of Commander...check CSPs for effectiveness level (see CSP Table A-10).

- player sets INTELL Level w/CSPs...check CSPs

- monitor player adjustment of CSPs

- identify units in sectors (or from Strategic SitRep if sectors are off the board)

- compare Intell levels of each unit to Intell Level and use A-3 (if units are off the board use AM intell level)

- provide report
- set up controller book w/Intell Markers;
monitor playerboard

ASSET TRANSFER PHASE

6. Transfer Assets

- monitor player CSP transfer (from previous turn)
- check hex paths for new CSP transfer
- monitor new CSP transfer
- monitor player ASP transfer
- player changes unit attachment
- player can move Commander (one Air CSP is needed)
- halve movement allowance of transferred units
- monitor HQ reconstruction (see 3.8)

MODE CHANGE PHASE

7. Change modes

- player designates desired changes to modes of units and HQs
- check SPs available to HQ...signal CSPs
increase SPs 1 for 1
- Commander if not previously used can add to SPA if successful see p. 83...check activity points; assess Fatigue
- compare SPs available to SPs required (A-5)
- if sufficient change all modes if not use A-6
for each unit
- halve movement allowance of mode changed units/HQs...assess fatigue (A-19)

OFFENSIVE FIRE SUPPORT

8. Conduct counter battery fire

- player designates attack hex...note range limitations for FA CSPs
- note intell level of enemy unit
- note # of CSPs assigned and check CSP effectiveness level and availability of ASPs...monitor CSP and ASP reductions...use A-8 then A-16 and A-17
- assess losses...

9. Conduct Interdiction

- player designates attack hex...note range limitations for FA CSPs and ENG CSPs
- note # of CSPs assigned and check effectiveness level and availability of ASPs
- place T/O markers on Control and opponent boards

DEFENSIVE FIRE SUPPORT

10. Repeat all of Steps 8 & 9

MOVEMENT AND COMBAT

- 11. player designates Active units...record
- 12. player designates Resting units...record and reduce Fatigue levels
- 13. Begin movement
 - check engaged Status
[1/2 is 1/2 Movement Allowance impact; Full is zero]
 - player can use Forced March (1.5 for FM1, 2 for FM2)
 - movement continues until allowance expended or combat
 - monitor terrain, zone of control, and break-through impacts
 - adjust Intell markers

- If contact made announce center of Z of C to phasing player; the contact to defender

14. Begin combat

- if phasing player choses combat begins;
adjust Movement Allowance by type of combat (cannot attack if ammo depleted); defender is told hex location

15. Conduct EW

- if either wants EW attacks made, phasing player goes first...Signal CSPs must be used

- Use A-22 note CSPS, Movement, Combat Shift result and record

- If possible defender uses EW...repeat above

16. Conduct Barrage and FPF

- Both players simultaneously assign CSPs...
note range limitations on FA CSPs and EN CSPs

- note # of CSPs assigned and check effectiveness level and availability of ASPs...compute difference then use A-9 and record

- monitor CSP and ASP reductions

17. Compute Combat Differential

- Strengths Difference

- Surprise...A-13

- Terrain...A-11

Clear...0

Woods...-2

Rough 1...-1

Rough 2...-3

Town...-2

City...-3

Minor River...-1

Major River...-3

Fortress...-6

Bridge...-2

- Fog... -2 (if present)

- T/O difference

- modes...A-25

- Adjacency Attack +2 for each;
Defense -1 for each (0 for
resting, DZ or TZ units)
- C³ Attack -8
Defense +4
- Fatigue FO 0
 F1 -2/+1
 F2 -5/+2
 F3 -8/+3
- Unprepared Attack 1st attack only, -2
- Commander if not previously used if success-
ful check table on p.84...check activity points...assess fatigue
- EW...use EW result
- Barrage/FPP...use Combat Support result
- Ammunition Depletion NA/+3
- If result not -5 or less ignore; if -5 or
less use table A-14 for AA
- If result not +7 or greater ignore; if +7 or
more use table A-15 for overrun
- If result -4 to +6 use A-16 then A-17
- players can try to retreat; check adjacency
impact
- non-retreater can advance one hex
- assess fatigue; update Intell markers
- place Breakthrough markers if defender va-
cates; Rubble; if necessary
- assess T/O losses; place engaged, 1/2 engaged
markers on defender
- adjust ammunition depletion status (if hex
path blocked and a 6 rolled)
- if additional combat is desired and possible
repeat from Step 15; if not go to next unit; if all moved go
to housekeeping

18. Housekeeping Phase

- markers - remove breakthrough, interdiction, active
- level - update engaged, EW status, commander fatigue

GO TO STEP 1

FATIGUE SHEET

STATUS

IMPACT

FO-F2

Only Combat Impact: 0/0; -2/+1;
-5/+2 respectively

F3

-8/+3 Combat Impact

Movement Allowance Halved

Only 1 Mode Change Attempt
allowed

HQ CSPs halved

>F3

Reduction in T/O, one for one

ANNEX B-4

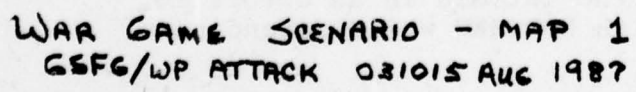
STRATEGIC SCENARIO

Strategic Scenario. The following represents the scenario used for the study, most particularly as the setting for the war game:

Increasing political tensions characterized much of the world during the summer of 1987. East-West tensions were exacerbated by limited border conflict on the Sino-Soviet Border as well as an outbreak of terrorism and guerrilla warfare in Yugoslavia. On 011400Z August 1987 the Warsaw Pact was detected mobilizing its forces. By 021600Z August, NATO forces began to depart from their casernes and to deploy to their initial defensive positions (IDPs).

Many NATO units were still moving toward their IDPs when the Warsaw Pact launched a combined land-air invasion of the Federal Republic of Germany. The blow fell at 031015Z August, achieving some tactical and operational surprise. Soviet airstrikes against NATO airfields were partially successful, but neither side was able to control the air for any period of time. The major focus for the Soviet ground attack is the North European plain; the 2d Guards Tank Army (GTA), reinforced by an MR Corps from the GDR, and the 3d Shock Army have attacked to cut off the North Sea ports and isolate the Ruhr. The 1st GTA is attacking to seize the Ruhr. The 20th Guards Combined Arms Army (CAA) is echeloned to support the 1st GTA while a Polish CAA is echeloned in support of the attack in the North. Secondary holding attacks were made by the 8th Guards CAA and Soviet Forces Southern Group into Bavaria. See Map #1.

The current tactical situation facing SACEUR is critical. Soviet attacks in the North have been successful; NORTHAG is barely holding together. While most of CENTAG has given up little terrain, the II Corps (GE) has been forced to give ground to the 1st GTA in an effort to maintain contact with NORTHAG while defending



the approaches to the Ruhr. This has driven a fifty to sixty kilometer salient into the north flank of CENTAG, exposing the V Corps (US) flank. Sensing an opportunity, the Soviet Front Commander has passed the 20th Guards CAA through the 1st GTA toward the Ruhr with the obvious intention of driving Southwest to seize the Rhine crossing at Frankfurt with the 1st GTA. The 8th Mech Div (US), still in march order to its IDP, has been ordered to close the gap between the 3rd Armored Div (US) and the III Corps (GE). Elements of the 11th Cavalry Regt (US) are currently screening the sector; contact between this screen and the 1st GTA is expected by 060100Z August. See Map #2.

Priority for US Reforger units is the NORTHAG sector; elements of a IV Corps (US/GE) are absorbing units from CONUS. Because of this priority, the 4th Mech Div (US) cannot be expected to close before 091200Z; this unit will not be ready for combat before 102200Z August.

Thus far Soviet forces have not used nuclear or chemical weapons. Political release of these weapons for use by NATO forces has not occurred. Neither side can gain more than local air superiority, and this only for a short period of time; this state is likely to continue for at least one week.

ANNEX B-5

U.S. INTELLIGENCE ESTIMATE

ANNEX B-5

U.S. INTELLIGENCE ESTIMATE

V Corps HQ
052400Z AUG 1987

INTEL ESTIMATE

1. Mission

8th MID, as part of V Corps, will destroy first and second echelon divisions of 1st GTA(-) entering the main battle area; be prepared to conduct counterattacks in support of REFORGER units on order.

2. Area of Operations

a. Weather: Weather in August is usually sunny and dry; however, rain showers of 8 to 16 hour duration may be expected. Off-road movement during precipitation will be substantially reduced.

Fog: 5 to 10% chance during the morning (0400-1200).

Rain: 40-45% chance at any time.

b. Terrain: The terrain between Kassel and Giessen, as shown on the map board, is predominately forested with some urban build-up in the non-forested areas. Rough terrain generally divides the combat area into two north-south avenues of approach, along a line running from the Staats Forst Affoloean (in the north), through the Kellerwald, and then to the Vogelsberg. The eastern avenue follows the Schwalm R. valley and the western avenue follows the Wohra R. valley. However, there are other terrain features compartments that generally run NE to SW, the Frielemdorf, Ziegenhain, Stadt Allendorf, Marburg axis being the principle one; autobahn also provides rapid NE-SW movement.

The eastern avenue of approach will provide the fastest access to the NE-SW compartments. The western avenue of approach has restricted maneuver room and terminates in a major forest, the Staats Forst Marburg Nord.

Terrain appears to favor a defensive mission but rapid lateral movement will be restricted due to the few E-W roads. The eastern avenue appears to have an advantage in high speed maneuver and is favorable to armored deployment.

3. Enemy Situation

a. Dispositions: Since 051200Z AUG elements of the 11th ACR have been conducting a delay against regiments of the

7th GTA and the 27th GMRD. At 052400Z elements of 7th GTD have crossed the Eder R. SE of Fritzlar with two Tk Regts leading. Concurrently, the 27th GMRD pushed two MRR across the Eder R. vicinity of Bad Wildungen. Unidentified (U/I) elements have been detected near Route 252 (paralleling the Eder R. in the West) and N. of Frankenberg. 11th GTD is located on "map" sheet to N vic. Sachsenhausen.

1st GTA HQ located vic Kassel.

Initial dispositions suggest the 1st GTA has weighted the eastern avenue of approach.

b. Composition

<u>7th GTD</u>	<u>11th GTD</u>	<u>27th GMRD</u>
7th Recce Bn	11th Recce Bn	26/27th Recce Bn
25th Tk Regt	33rd Tk Regt	91st MRR
26th "	34th "	92nd "
27th "	35th "	93rd "
28th MRR	36th MRR	94th Tk Regt
		27/27th Tk Bn

These three divisions represent approximately 900 tanks and 360 to 420 guns.

c. Strength

1) 7th GTD and 27th GMRD have recently been committed from second echelon; they are at full strength. 11th GTD has been involved in very limited fighting against III GE Corps and is also estimated to be at full strength.

2) Reinforcements for the 1st GTA can be either an EG MR Corps, a CAA from the Polish Front, or both.

a) EG MR Corps can reinforce by 070400Z.

b) CAA can reinforce by 080400Z.

3) Frontal Aviation can provide some support to the 1st GTA; however, most TACAIR assets are tied up in airfield strike missions and some deep interdiction missions. PVO Strany (air defense) can provide substantial counter-air capability over the FEBA and Soviet rear.

4) There has been no TAC/THEATER NUCLEAR activity.

d. Recent Activities

1) 20th CAA passed through the 1st GTA 051200Z; 20th CAA continues to attack against III GE Corps. Relief was conducted with no major problems.

2) 6th GTD and 9th TD have been in heavy contact with III GE Corps until relieved by 20th CAA. 9th TD was badly mauled and is resting N of Kassel; it will remain combat ineffective for at least 48 hours.

3) 7th GTD, at 052400Z has pushed two Tk Regt across Eder R. (see SitMap); it continues to attack 11th ACR. 27th GMRD, at 052400Z has advanced two MRR across Eder R. (see SitMap); it continues to attack toward south.

4) 11th GTD HQ remains in vic Sachsenhausen and appears to be reorganizing the uploading ammunition. Tk Rgt of division may be on the move by 060400Z.

5) Sov Frontal Aviation has been active over V Corps sector; some attacks against elements of 8th MID have occurred.

6) 1st GTA commander stressed that maximum offensive efforts are imperative to achieve the "norms" and high expectations of the General Staff. "Norms" most probably refer to the capture of the Mainz crossing sites and forward airfields. It was emphasized that the mission must be accomplished before the 4th MID and 2nd AD REFORGER units arrive in theater.

4. Enemy Capabilities

a. Attack: 1st GTA with 7th GTD, 11th GTD, and 27th GMRD have the capability to attack immediately (by 060400Z). This attack will be well supported by artillery and tacair. An attack could have 5-7 regiments in the first echelon according to doctrine; an attack will probably be weighted in the eastern avenue of approach so as to seize NE-SW compartments as fast as possible. 1st GTA intermediate objective is probable major road junctions east/southeast of Giessen. The final obj is probably the Mainz crossing sites.

The enemy has two major options:

a) Fight 7th GTD and 27th GMRD to south with 11th GTD in second echelon to be used as an exploitation force. Weight of main attack would be in eastern A/A. 11th GTD would then be committed through 7th GTD, or between 7th and 27th Divs.

b) Fight 7th GTD, 27th GMRD, and 11th GTD abreast with either 27th or 11th providing one regiment for army

reserve. Main weight would remain in eastern sector but more weight in western corridor than in option one (1). The second option also provides more combat power forward than option one (1).

b. Defend: While the 1st GTA could resort to a defense of the 20th CAA salient, it is not expected to do so. Defense would be conducted with two tank and one MR divisions in the first defense belt with the 11th GTD in the second defense belt and the 9th TD as army reserve. If 11th GTD remains in second echelon it could defend if 1st GTA main effort fails.

c. Reinforce: 1st GTA can receive numerous reinforcements as delineated in para. 3.c.2 above.

5. Conclusions

The 1st GTA will attack and be in contact with the 11th ACR covering force by 060400Z AUG. Attack will most probably be weighted in the eastern avenue of approach with as many as two divisions. The objective would be to initially seize the NE/SW corridors including the autobahn. The intermediate objective of 1st GTA is probably the roads east of Giessen. 1st GTA operations will be based on achieving overwhelming combat power to achieve one or several penetrations followed by an exploitation, when and if possible.

Authenticated:

Mustang
C/S V Corps

ANNEX B-6

SOVIET INTELLIGENCE ESTIMATE

ANNEX B-6

SOVIET INTELLIGENCE ESTIMATE

1st GTA HQ
052400Z AUG 1987

INTEL ESTIMATE

1. Mission

1st GTA attacks to seize:

- a. Intermediate Objective vic Albach NLT 082000Z AUG.
- b. Final Objective Frankfurt NLT 101200Z AUG.

2. Area of Operations

a. Weather

Weather in August is usually sunny and dry; however, rain showers of 8 to 16 hour duration may be expected. Off-road movement during precipitation will be substantially reduced.

Fog: 5 to 10 percent chance in the morning (0400-1200).

Rain: 40-45 percent chance at any time.

b. Terrain

The terrain between Kassel and Giessen, as shown on the map board, is predominately forested with some urban build-up in the non-forested areas. Rough terrain generally divides the combat area into two north-south avenues of approach, along a line running from the Staats Forst Affoloean (in the north), through the Kellerwald, and then to the Vogelsberg. The eastern avenue follows the Schwalm R. valley and the western avenue follows the Wohra R. valley. However, there are other terrain compartments that generally run NE to SW, the Friedendorf, Ziegenhain, Stadt Allendorf, Marburg being the principle one. The autobahn also provides rapid NE-SW movement.

The eastern avenue will give the fastest access to the NE-SW compartments. The western avenue of approach has restricted maneuver room and terminates in a major forest, the Staats Forst/Marburg Nord.

Terrain appears favorable to a defensive mission but rapid lateral movement will be restricted to the few E-W roads. The eastern avenue appears to have an advantage in high speed approaches and is favorable to armored deployments.

3. Enemy Situation

a. Dispositions

Since 051200Z AUG lead elements of the 7th GTD and the 27th GMRD have been harassed by armored reconnaissance units of the 11th US ACR. By 052400Z both 7th and 27th Div. have pushed regiments across the Eder R. against light opposition. Resistance continued to remain light but should increase along a line Schwalm R. (east) to Frankenberg (west). This may be the location of the first defensive belt of the 8th MID.

The US 8th MID has deployed against major elements of our victorious 1st GTA. The initial defensive deployments should be completed by 060400Z AUG. Indications are that reserves or a second defensive belt will be placed along a line that runs directly east from Marburg.

b. Composition

8th MID
3-4 Troops of 11th ACR
1 Squadron Armored Cav (Divisional)
5 Battalions Tank
6 Battalions Mech Inf
12-18 Batteries of FA (155 and 203)

The approximate strength is 350 main battle tanks and 100 to 160 guns.

c. Strength

1. The units of the 8th MID are at full strength but untested in battle.
2. Reinforcements for the 8th MID seem to be unavailable under current conditions. Intelligence suggests that the 4th MID (REFORGER) may be available o/a 12 AUG.
3. 8th MID can expect minimal air support since NATO TacAir is being diverted to support NORTHAG, deep interdiction, and air superiority strikes. Some A-10s and attack helicopters can be expected in close support of US combat battalions.
4. There has not been any NATO TACNUC activity.

d. Recent Activities

1. Elements of the 11th ACR have been conducting a minimum resistance delay and have broken contact south of the Eder R.
2. 8th MID has road marched from the Frankfurt-Hanau area to face the 7th GTD and 27th GMRD. 8th MID maintained some march discipline, but their frequent use of radios has provided us with accurate intel on organization and disposition (see Sit Map). The 8th reported being attacked and harassed by our Frontal Aviation forces.
3. 3rd AD remains on the defensive to the SE of 8th MID; the 3rd AD still holds Fulda.
4. 4/4th MIB is deployed south of 3rd AD.
5. Panzer Grenadiere Division (Territorial), attached to III GE Corps provides contact with left flank of 8th MID.

4. Enemy capabilities

- a. Attack: 8th MID has the capability to attack immediately, although this would be unsupported as a result of our success in the north and the unavailability of US V Corps and US Seventh Army assets. An attack could have as many as 5-7 Battalions and could be launched by 060400Z AUG. An attack would most probably be directed toward Kassel, in an attempt to seize our lines of communication.
- b. Defend: The 8th MID has the capability to defend from its present deployments with up to 12 maneuver battalions; if the enemy elects to defend, he will more than likely commit 8 or 9 battalions in his initial defensive belt with the remaining 3 or 4 battalions echeloned in depth along the N-S avenues of approach. 8th MID will be prepared to defend by 060400Z AUG. Their objective will be to protect Frankfurt and the Mainz crossings as part of V Corps.

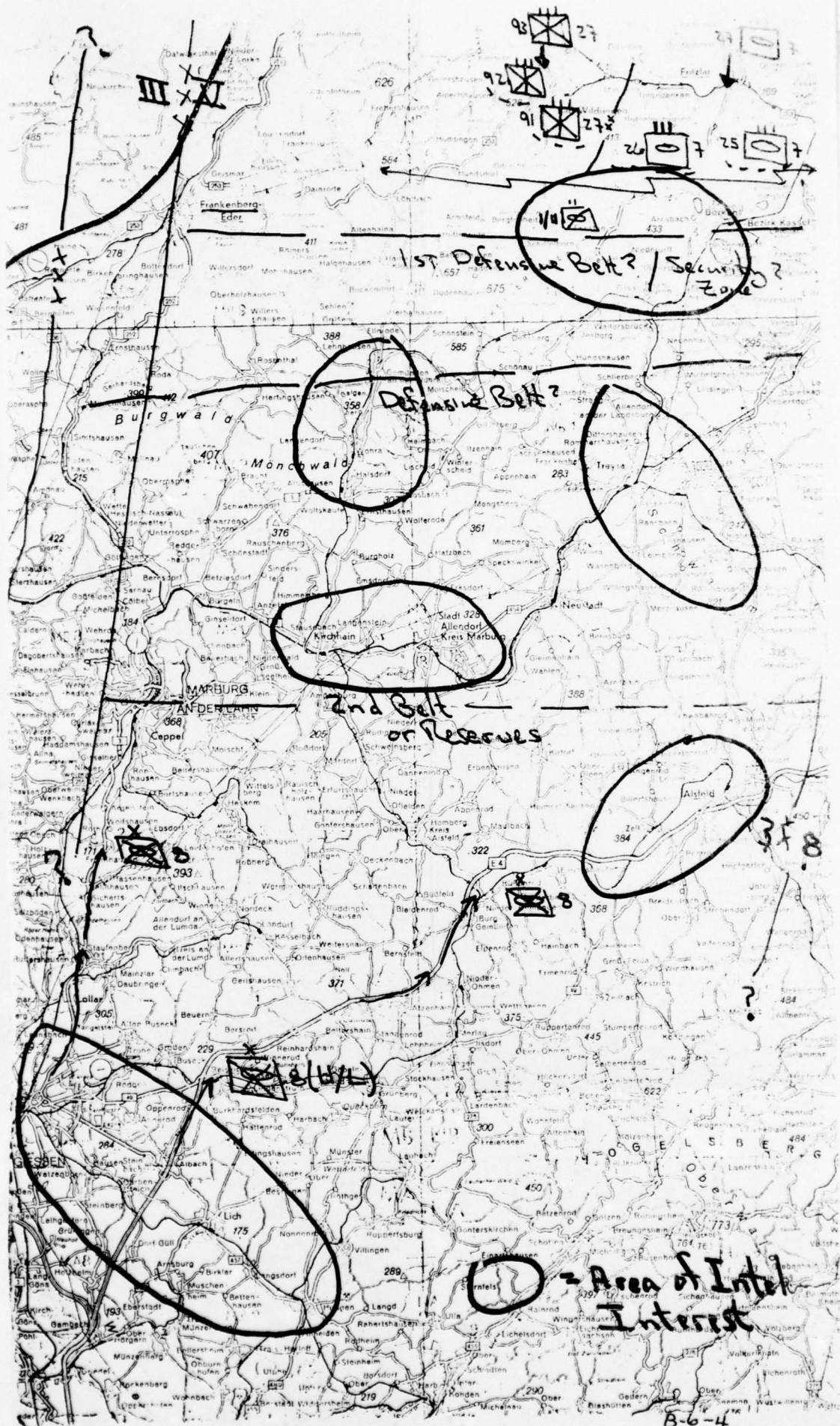
5. Conclusions

The enemy will probably defend in the vicinity of an E-W line from the Burgwald to Frielendorf and weight his defense to protect Marburg and Giessen. The enemy's dispositions, as influenced by terrain and political considerations, suggest that a quick penetration and rapid exploitation will seal his doom.

Authenticated:

Gen Zema

C/S 1st GTA



ANNEX B- 7

U.S. BASE CASE OF ORD

ANNEX B-7

U.S. BASE CASE OP ORD

V CORPS HQ
052400Z AUG 1987

OPORD (F)

References:

Map: Fulda-Kassel 1:250,000
Map: "Game Map"
Time Zone: ZULU
Organization: As per SOP and status charts

1. Situation

- a. Enemy Forces: See V Corps INTEL EST
- b. Friendly Forces: (see Sitmap)

1) V Corps continues to defend with the 8th MID to N/NW and 3rd AD (+) to E/SE. III GE Corps continues to delay in sector to W/NW of V Corps left boundary. 11th PzGd Div (Territorial) defends on V Corps left flank as part of III GE Corps. 11th ACR continues to screen V Corps along Eder River and then along line from Frankenburg (in west) toward Bad Hersfeld.

2) Elements of 9th and 12th TAF support V Corps as part of CENTAG/4th ATAF.

c. Attachments/Detachments

1/11th ACR (+) attached to 8th MID until 1/11 (+) passes into MBA. 11th ACR reorganizes at Gelnhausen and reverts to V Corps reserve.

2. Mission

8th MID, as part of V Corps, will destroy first and second echelon divisions of 1st GTA (-) entering the main battle area; be prepared to conduct counterattacks on order in support of REFORGER units.

3. Execution

a. Concept of Operations (see overlay)

1) Maneuver: 8th MID conducts an active defense in sector, to deny Mainz crossings to the enemy, from 0819 to 3919. Covering Force south of Schwalm R.-Frankenberg

line will be reinforced with 3/8th CAV and two battalions/
task forces.

2) Fires: Nuclear Release not authorized. Priority
of Corps fire support assets to 3rd AD. Fire support and
TacAir as per SOP and status charts.

b. Engineers:

Engineers will destroy bridges in area of CFA and
reinforce terrain to slow the enemy in front of battle posi-
tions.

c. Reserves: One tank battalion of 8th MID will
remain under division control for use as Corps contingency
force and will occupy blocking position vic. Alsfield until
11th ACR passes into MBA.

d. EEI:

1) Location of 1st GTA main effort?

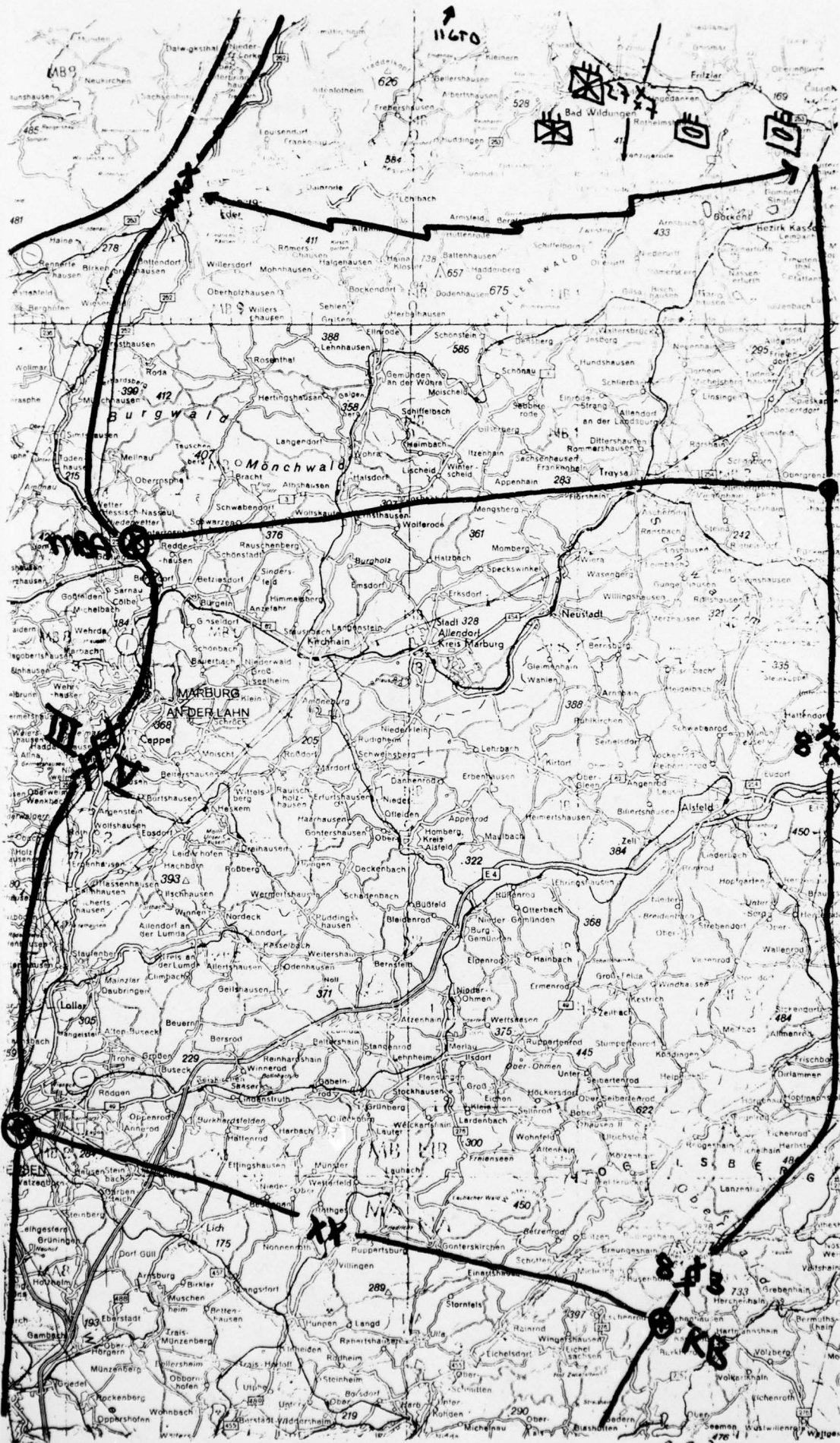
4. Service Support

As per SOP; priority of V Corps support to 3rd AD.

5. Command and Signal

V Corps CEOI applies.

V Corps HQ at Hanau.



ANNEX B-8

U.S. ALTERNATIVE OF ORD

ANNEX B-8

U.S. ALTERNATIVE OP ORD

V CORPS HQ
052400Z AUG 1987

OPORD (M)

References:

Map: Fulda-Kassel 1:250,000
Map: "Game Map"
Time Zone: ZULU
Organization: As per SOP and status charts

1. Situation

- a. Enemy Forces: See V Corps INTEL EST
- b. Friendly Forces: (see Sitmap)

1) V Corps continues to defend with the 8th MID to N/NW and 3rd AD (+) to E/SE. III GE Corps continues to delay in sector to W/NW of V Corps left boundary. 11th PzGd Div (Territorial) defends on V Corps left flank as part of III GE Corps. 11th ACR continues to screen V Corps along Eder River and then along line from Frankenburg (in west) toward Bad Hersfeld.

2) Elements of 9th and 12th TAF support V Corps as part of CENTAG/4th ATAF.

c. Attachments/Detachments

1/11th ACR (+) attached to 8th MID until it passes through Initial Defensive Surface (IDS). 11th ACR reorganizes at Gelnhausen and reverts to V Corps reserve.

2. Mission

8th MID, as part of V Corps, will destroy first and second echelon divisions of 1st GTA (-) entering the main battle area; be prepared to conduct counterattacks on order in support of REFORGER units.

3. Execution

a. Concept of Operations (see overlay)

1) Maneuver: 8th MID conducts mobile operations/mobile defense in sector to disrupt attack of 1st GTA leading to the ultimate disintegration of 1st GTA. Covering Force Surface (CFS) for 8th MID will be established along the

Schwalm R.-Frankenberg line with forces as necessary to shape the battlefield leading to strong counterthrusts; however, not more than three battalions will be tasked with the CFS mission. Initial Defense Surface (IDS) will be established in the general vic of a line running east-west from 3919 to 0819 on "Game Map".

V Corps initial objective is to disrupt 1st GTA while establishing conditions for counterstroke toward Kassel cutting off support to major elements of 1st GTA and 20th CAA.

Corps thrust-line will be in 3rd AD sector (see overlay).

2) Fires: Nuclear Release is not authorized. Priority of Corps fire support assets to 3rd AD. Fire support and TacAir as per SOP and status charts.

b. Engineers:

Engineers will destroy bridges in area of CFS and reinforce terrain to slow and channel enemy; barrier plan will support mobile operations for division and corps counter-strokes.

c. Reserves: one (1) tank battalion of 8th MID will remain under division control for use as Corps contingency force and will deploy at Alsfeld until 11th ACR passes through IDS.

d. EEI:

1) Where will 1st GTA make its main effort?

2) When and where will the Div CPs and 1st GTA CP be located?

3) When and where will enemy commit second echelon div?

4) Where location of Regimental trains?

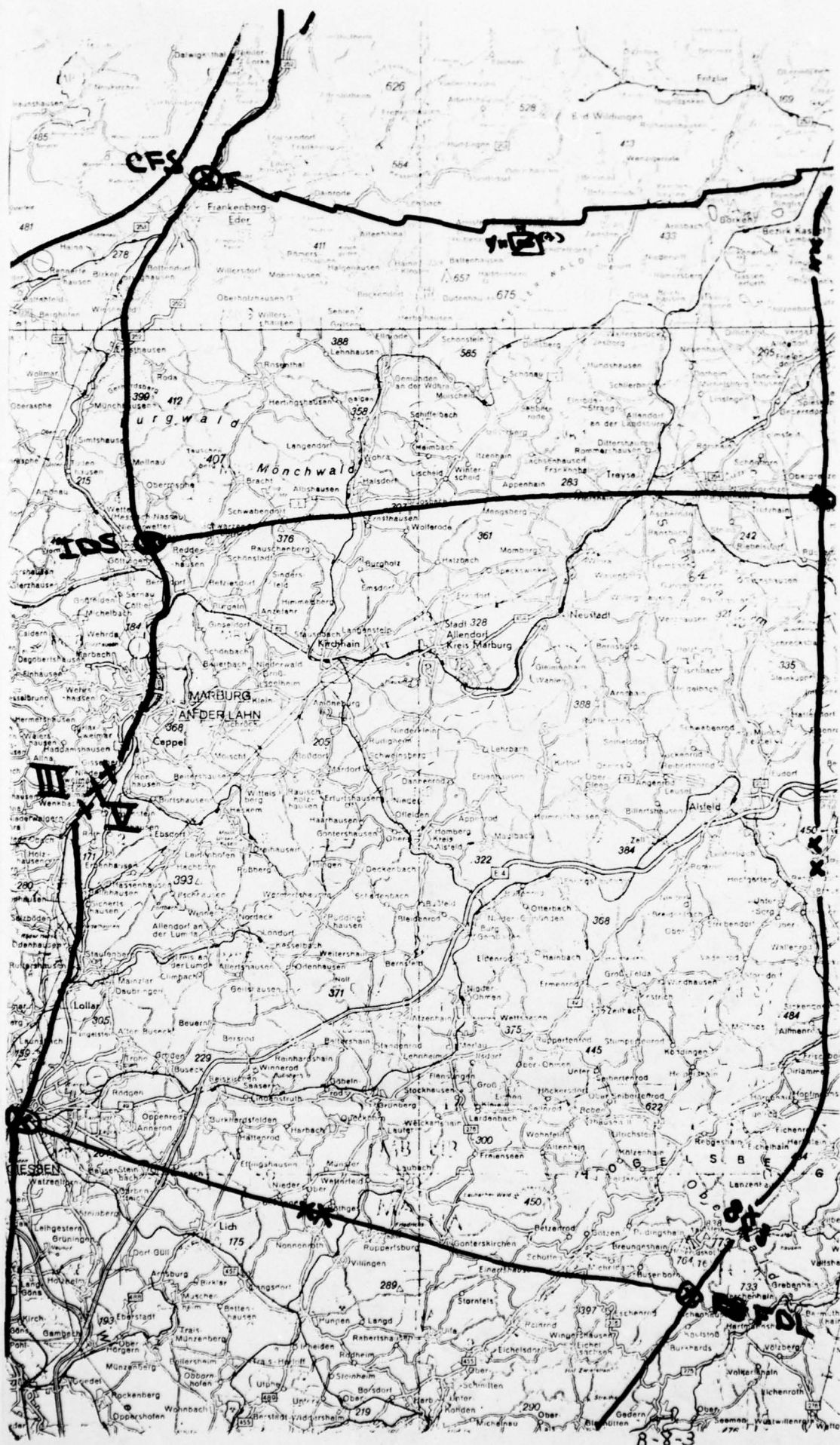
4. Service Support

As per SOP; priority of V Corps support to 3rd AD.

5. Command and Signal

V Corps CEOI applies.

V Corps HQ at Hanau.



ANNEX B-9

SOVIET BREAKTHROUGH OM OP ORD

ANNEX B- 9

SOVIET BREAKTHROUGH OM OP ORD

1st GDA HQ
052400Z AUG 1987

OP ORD (B)

References

Map: Fulda-Kassel 1:250,000
Map: "Game Map"
Time Zone: Zulu
Organization:
7th GTD
11th GTD
27th GTD
1st GTA Artillery Brigade

1. Situation

- a. Enemy forces: See INTEL EST
- b. Friendly forces:
GSFG continues to attack with main effort in North European plain. 20th GCAA, which passed through 1st GTA at 042000Z AUG, continues to exploit against remnants of III GE Corps. 8th CAA, on 1st GTA left launches an attack in support of 1st GTA main effort at 060400Z.
- c. Attachments/Detachments
6th GTD to 20th GCAA 060400Z.

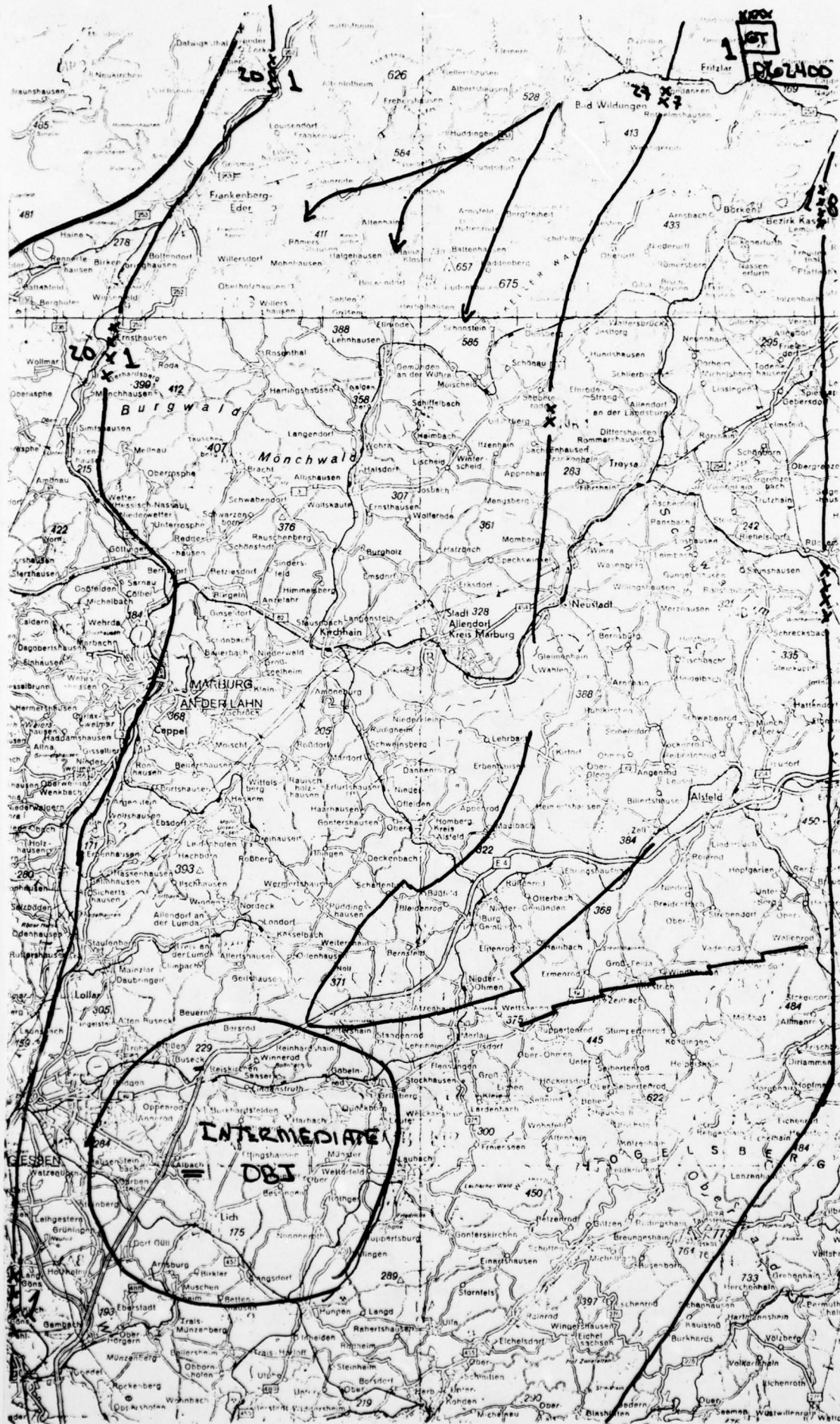
2. Mission

- 1st GTA attacks at 060400Z to seize:
- a. Intermediate obj vic Albach NLT 082000Z.
 - b. Final obj Mainz NLT 101200Z.

3. Execution

- a. Concept of operation (See OP map attached)
 - 1) Maneuver: 1st GTA conducts breakthrough attack to seize intermediate and final objectives with main attack in left zone.
 - a) 7th GTD makes Army main attack down eastern avenue of approach to seize intermediate objective.
 - b) 27th GMRD makes Army secondary attack to hold elements of US 8th MID in place while maintaining contact with 20th GCAA on right. 27th GMRD will advance with three regiments echeloned to right.
 - c) 11th GTD follows 7th GTD as second echelon; be prepared to launch breakthrough or exploitation along 7th GTD's right flank.

- 2) Fires: priority of fires to 7th GTD, as per SOP, and status charts. Nuclear Release not authorized.
- b. Reserves: 36/11 MRR will be Army reserve until 11th GTD committed.
- 4. Service Supports
Priority 7th GTD, as per SOP, and then 11th GTD.
- 5. Command and Signal
 - a. 1st GTA HQ deploys from Kassel to Fritzlar 062000Z.
 - b. 1st GTA HQ deploys from Fritzlar to Allendorf when secured.



ANNEX B-10

SOVIET MULTIPLE PENETRATION OM OP ORD

ANNEX B-10

SOVIET MULTIPLE PENETRATION OM OP ORD

1st GTA HQ
052400Z AUG 1987

OP ORD (M)

References

Map: Fulda-Kassel 1:250,000
Map: "Game Map"
Time Zone: Zulu
Organization:
7th GTD
11th GTD
27th GTD
1st GTA Artillery Brigade

1. Situation

- a. Enemy forces: See INTEL EST
- b. Friendly forces:
GSFG continues to attack with main effort in North European plain. 20th GCAA, which passed through 1st GTA at 042000Z AUG, continues to exploit against remnants of III GE Corps. 8th CAA, on 1st GTA left launches an attack in support of 1st GTA main effort at 060400Z.
- c. Attachments/Detachments
6th GTD to 20th GCAA 060400Z.

2. Mission

- 1st GTA attacks at 060400Z to seize:
- a. Intermediate obj vic Albach NLT 082000Z.
 - b. Final obj Mainz NLT 101200Z.

3. Execution

- a. Concept of operation (See OP map attached).
 - 1) Maneuver: 1st GTA conducts multiple penetration attacks to pierce enemy line and then conducts exploitation to objective(s).
 - a) 7th GTD will make main effort down eastern avenue of advance.
 - b) 27th GMRD will make attacks in center 92/27 MRR is Army reserve.
 - c) 11th GTD makes attack down Army right flank and drives down Route 2SZ/
 - 2) Fires: Priority to 7th GTD, as per SOP, and status charts.
- b. Reserves: 93/27 MRR is Army Reserve and will follow right flank of 7th GTD.

4. Service Support
As per SOP

5. Command and Signal

- a. 1st GTA HQ deploys from Kassel to Fritzlar 062000Z.
- b. 1st GTA HQ deploys from Fritzlar to Allendorf when secured.

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CONTENDING CONCEPTS TACTICS & OPERATIONAL ART. VOLUME II, (U)
JUN 79 E A BRYLA, M S LANCASTER

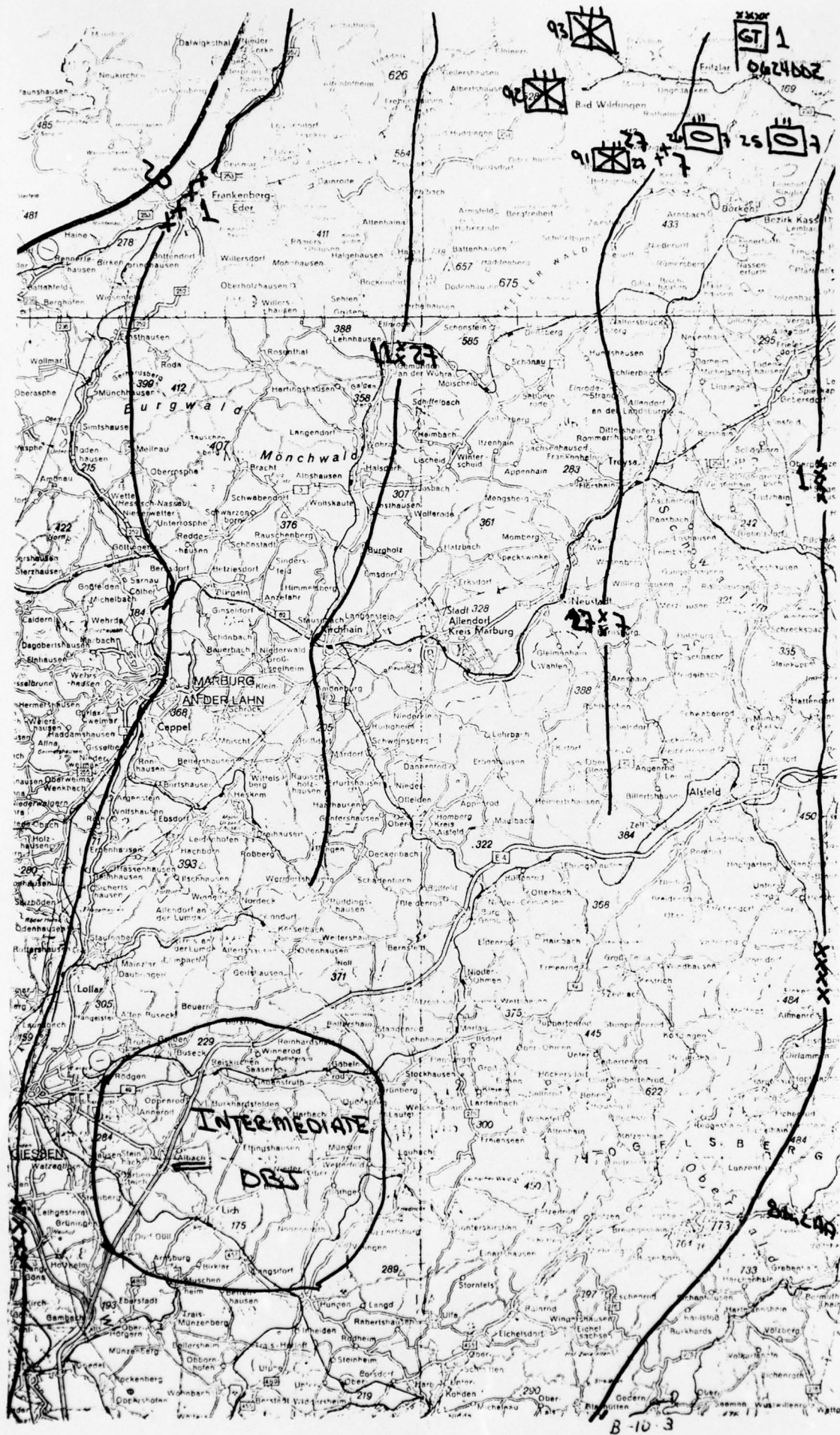
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ANNEX B-11

PLAYER GROUPS

ANNEX B-11

PLAYER GROUPS

U.S. BASE CASE
TACTICAL DOCTRINE
GROUP

BAUCHSPIES

FORBES

HANDY

MEDLOCK

MEIER

YARBOROUGH

U.S. ALTERNATIVE
TACTICAL DOCTRINE
GROUP

BOYLAN

CATO

CONNOLLY

HARVEY

HOCK

MCCANN

SOVIET
GROUP

BARRIE

HILL

LINHARES

LOVEJOY

ANNEX B- 12

WAR GAME PLAYERS

ANNEX B-12

WAR GAME PLAYERS

GAME PLAYERS

U.S. PLAYERS

<u>NAME</u>	<u>GRADE</u>	<u>NWC CLASS</u>	<u>BRANCH</u>	<u>U.S. TACTICAL DOCTRINE GROUP</u>
BAUSCHSPIES, R.E.	LTC	CNW	INFANTRY	BASE CASE
BOYLAN, P.J.	LTC	CNW	INFANTRY	ALTERNATIVE
CATO, R.B.	MAJ	CNC&S	ARTILLERY	ALTERNATIVE
CONNOLLY, W.J.	MAJ	CNC&S	INFANTRY	ALTERNATIVE
FORBES, G.L.	MAJ	CNC&S	INFANTRY	BASE CASE
HANDY, G.W.	LTC	CNW	ARMOR	BASE CASE
HARVEY, T.H.	LTC	CNW	ARMOR	ALTERNATIVE
HOCK, F.M.	MAJ	CNC&S	INFANTRY	ALTERNATIVE
MCCANN, D.B.	MAJ	CNC&S	ARMOR	ALTERNATIVE
MEDLOCK, R.B.	MAJ	CNC&S	INFANTRY	BASE CASE
MEIER, A.C.	MAJ	CNC&S	ARTILLERY	BASE CASE
YARBOROUGH, N.G.	LTC	CNW	ARMOR	BASE CASE

SOVIET PLAYERS

BARRIE, J.E.	MAJ	CNC&S	TRANSPORTATION	N/A
HILL, O.K.	LTC	CNW	ENGINEER	N/A
LINHARES, P.H.	MAJ	CNC&S	SIGNAL	N/A
LOVEJOY, C.D.	MAJ	CNC&S	MILINT	N/A

ANNEX B-13

MEMORANDUM TO POTENTIAL WAR GAME PARTICIPANTS

ANNEX B- 13

MEMORANDUM TO POTENTIAL WAR GAME PARTICIPANTS

22 March 1979

MEMORANDUM TO POTENTIAL WAR GAME PARTICIPANTS

Subj: War Game Participation in Support of a Center for Advanced Research (CAR) Study

1. Majors Bill Rennagel, Mike Lancaster, and Ed Bryla are conducting a research effort whose purpose is to establish an improved operational concept for the "heavy" division of the U.S. Army. To this end they are developing and will test a set of alternative tactical doctrines to determine if there is potential for improving the future "heavy" division's battlefield performance by improving its current tactical doctrine.

2. Two tactical doctrines will be tested. The "base case" is that espoused in FM 100-5, Operations and FM 71-100, Armored and Mechanized Division Operations. The alternative will be based upon an analysis of the tactical doctrines of the Federal Republic of Germany, of Israel, and of the Soviet Union, and of the historical development of these doctrines and that of the U.S.

3. The data base for the Measures of Effectiveness (MOE) and the Measures of Performance (MOP) used in the study will be provided by:

a. the results of a war game played as part of the study

b. the results of an opinion survey of the players participating in the war game and of an opinion survey of US, FRG, and Israeli division and corps commanders.

4. Your support is critical to the success of the study. Would you consider participating as a Blue Red player in the war game? Your involvement would entail:

a. Reviewing/learning the alternatives. A "battle book" for the new tactical doctrine similar in concept to FM 71-100 will be provided. [Blue only]

b. Completing a pre-game questionnaire to determine your level of understanding of the alternatives. [Blue only]

c. Learning to play the war game - a simple Simulations Publications Incorporated commercial game.

d. Playing two or more iterations of the war game.

e. Completing a post-game questionnaire to determine your opinion with regard to the relative acceptability and performance potential of a "heavy" division using one of the tactical doctrines; and time in addition to your third trimester hours. [A compensatory plan is being considered.]

5. Please fill out the attached sheet to indicate your interest and willingness to participate and return to MAJ Bryla NLT 29 March 1979.

6. A briefing describing the study in detail will be given on 2 April 1979 at the CAR. If you are interested in participating as a player do not attend. Special provisions will be made for a separate briefing for game players.

PLEASE INDICATE APPLICABLE RESPONSE

☐

I AM INTERESTED IN PARTICIPATING.

☐

I AM NOT INTERESTED IN PARTICIPATING.

☐

I NEED MORE INFORMATION.

NAME (PLEASE PRINT)

B-13-3

APPENDIX C

WAR GAME RESULTS

APPENDIX C

WAR GAME RESULTS

1. Introduction

a. The purpose of this appendix is to provide the combat results data of the war game played as part of the study.

b. Four iterations (referred to as "Games" from this point on) of the war game were conducted. Each Game matched either the base case tactical doctrine or the alternative tactical doctrine with one of two Soviet Operational Methods: Breakthrough (B) or Multiple Penetration (MP). The combinations played are shown in the following table.

TABLE C-1		
<u>GAME COMBINATIONS</u>		
<u>SOVIET OM</u>	<u>U.S. TACTICAL DOCTRINE</u>	
	<u>BASE CASE</u>	<u>ALTERNATIVE</u>
B	Game 4	Game 1
MP	Game 3	Game 2

c. The following combat results data are provided in this appendix:

- Paragraph 2 - U.S. Combat Results Data
- Paragraph 3 - Soviet Combat Results Data
- Paragraph 4 - Exchange Ratios

- Paragraph 5 - Remaining Strength Ratios
- Paragraph 6 - Game Histories and Game Termination Combat Strength Differential Comparisons.

2. U.S. Combat Results Data

The tables below display the U.S. combat results data which were compiled during the war game.

TABLE C-2

U.S. COMBAT STRENGTH LOSSES¹

<u>UNIT</u>	<u>GAMES</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
1/11 CAV ²	5	6	7	4
3/8 CAV ³	3	5	5	3
1/13 MECH	0	0	0	0
2/13 MECH	4	1	6	0
2/28 MECH	7	0	1	7
1/39 MECH	1	1	0	0
1/68 ARM	0	0	5	0
2/68 ARM	2	1	7	4
3/68 ARM	6	0	2	0
5/68 ARM	7	3	6	0
4/69 ARM	7	1	4	0
1/87 MECH	1	1	0	7
2/87 MECH	0	2	7	0
TOTAL	43	21	50	25

TABLE C-2 (Cont)

Notes: ¹ Loss of Combat Strength was simulated in the war game by loss of "T/O" points. A destroyed unit implies a loss of 7 T/O points; a unit which lost 4 T/O points or more is counted as a combat ineffective unit. All units began combat at T/O level 6.

² Losses by the Troops of the 1/11th CAV were as follows:

1/1/11 - 1, 7, 7, 7; 2/1/11 - 7, 7, 7, 0;
3/1/11 - 7, 7, 7, 6; 4/1/11 - 7, 2, 7, 7;
1/2/11 - 1, 7, 7, 0.

³ Losses by the Troops of the 3/8th CAV were as follows:

1/3/8 - 2, 7, 7, 0; 2/3/8 - 0, 7, 7, 2; 3/3/8 - 7, 1, 2, 7.

TABLE C-3

U.S. COMBAT SUPPORT STRENGTH LOSSES¹

<u>GAMES</u>			
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
21	2	5	8

Notes: ¹ Loss of Combat Support Strength was simulated in the war game by loss of Combat Support Points (CSPs). CSPs are equivalent to 1/2 T/O points.

TABLE C-4

U.S. COMBAT/COMBAT SUPPORT STRENGTH LOSSES¹

<u>GAMES</u>			
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
53.5	22	52.5	29

TABLE C-4 (Cont)

Note: ¹ The sum of T/O point equivalents lost, i.e.,
 Combat Strength (T/O points) lost + Combat
 Support Strength (CSPs - 2) lost.

TABLE C-5

U.S. BATTALIONS LOST

GAMES

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
3	0	3	2

TABLE C-6

U.S. BATTALIONS LOST OR INEFFECTIVE

GAMES

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
6	2	8	4

TABLE C-7

U.S. FATIGUE LEVELS¹

<u>UNIT</u>	<u>GAMES</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
1/11 CAV ²	N/A	N/A	N/A	N/A
3/8 CAV ³	3	N/A	N/A	2
1/13 MECH	0	2	0	1
2/13 MECH	N/A	0	N/A	3
2/28 MECH	N/A	0	3	N/A
1/39 MECH	3	0	0	0
1/68 ARM	2	0	N/A	2
2/68 ARM	3	2	N/A	N/A
3/68 ARM	N/A	1	0	2
5/68 ARM	N/A	1	N/A	2
4/69 ARM	N/A	0	N/A	1
1/87 MECH	2	0	3	N/A
2/87 MECH	0	0	N/A	1
TOTAL	13	6	6	14

NOTES: ¹ These are "survivors" fatigue levels; units destroyed or ineffective are considered as not applicable. All units began combat at Fatigue level 0; 3 is the highest (worst) possible Fatigue level.

² Fatigue levels by the Troops of the 1/11th CAV were as follows: 1/1/11 - 2, N/A, N/A, N/A; 2/1/11 - N/A, N/A, N/A, 2; 3/1/11 - N/A, N/A, N/A, N/A; 4/1/11 - N/A, 0, N/A, N/A; 1/2/11 - 1, N/A, N/A, 0.

³ Fatigue levels by the Troops of the 3/8th CAV were as follows: 1/3/8 - 3, N/A, N/A, 0; 2/3/8 - 2, N/A, N/A, 2; 3/3/8 - N/A, 1, 0, N/A.

TABLE C-8

AVERAGE U.S. BATTALION COMBAT STRENGTH LOST

<u>GAMES</u>			
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
3.31	1.62	3.85	1.92

TABLE C-9

AVERAGE U.S. BATTALION COMBAT/COMBAT SUPPORT STRENGTH LOST

<u>GAMES</u>			
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
4.12	1.69	4.04	2.23

TABLE C-10

AVERAGE U.S. SURVIVING BATTALION FATIGUE LEVEL

<u>GAMES</u>			
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
1.86	0.55	1.20	1.56

TABLE C-11

PERCENTAGE OF U.S. COMBAT STRENGTH LOST¹

<u>GAMES</u>			
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
47.3	23.1	54.9	27.5

Note: ¹ 8th MID began combat with 91 T/O point equivalents as its Combat Strength.

TABLE C-12

PERCENTAGE OF U.S. COMBAT/COMBAT SUPPORT
STRENGTH LOST¹

<u>GAMES</u>			
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
42.3	17.4	41.5	22.9

Note: ¹ 8th MID began combat with 91 T/O point equivalents as its Combat Strength and 35.5 T/O point equivalents as its Combat Support Strength; 126.5 T/O point equivalents total.

3. Soviet Combat Results Data

The following tables are the Soviet combat results data which were compiled during the war game.

TABLE C-13

SOVIET COMBAT STRENGTH LOSSES

<u>UNIT</u>	<u>GAMES</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
1/91 MR*	4	3	0	3
2/91 MR	0	2	6	2
3/91 MR	0	1	1	7
4/91 MR/T*	5	2	2	7
1/92 MR	7	5	5	4
2/92 MR	3	0	4	2
3/92 MR	3	1	2	5
4/92 MR/T	0	2	5	1
1/93 MR	4	1	1	6
2/93 MR	3	1	7	4
3/93 MR	4	1	7	2
4/93 MR/T	6	0	7	7
1/94 MR/T	6	4	1	4
2/94 MR/T	3	0	3	5
3/94 MR/T	2	4	2	3
26/27 RECON*	0	0	0	2
27/27 T	4	4	4	3
27 MRD SUBTOTAL	54	31	57	67
1/25 T*	2	1	0	3
2/25 T	7	2	1	0
3/25 T	4	5	2	6
1/26 T	3	1	4	3
2/26 T	7	0	0	0
3/26 T	3	4	4	7
1/27 T	2	0	1	7
2/27 T	3	7	3	1
3/27 T	1	2	5	3
1/28 MR	4	4	3	4
2/28 MR	0	1	3	4
3/28 MR	5	3	3	6
4/28 MR/T	2	7	5	3
7/7 RECON	0	3	2	1
7TD SUBTOTAL	43	40	36	48
1/33 T	0	1	0	0
2/33 T	0	3	2	0
3/33 T	0	1	1	2
1/34 T	0	3	0	0
2/34 T	0	7	0	0
3/34 T	2	4	5	2
1/35 T	0	3	7	0

TABLE C-13 (Cont)

2/35 T	0	0	2	0
3/35 T	1	0	3	1
1/36 MR	1	5	2	0
2/36 MR	0	7	2	0
3/36 MR	0	4	1	0
4/36 MR/T	0	7	2	0
11/11 RECON	0	1	7	0
11 TD SUBTOTAL	4	46	34	5
1 GTA TOTAL	101	117	127	120

Note: * MR - Motorized Rifle (Mech Inf)
 MR/T - Tank Bn in a Motorized Rifle Regt
 T - Tank Bn
 RECON - Reconnaissance Bn

TABLE C-14

SOVIET COMBAT SUPPORT STRENGTH LOSSESGAMES

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
30	23	3	5

TABLE C-15

SOVIET COMBAT/COMBAT SUPPORT STRENGTH LOSSESGAMES

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
116	128.5	128.5	122.5

TABLE C-16

SOVIET BATTALIONS LOST

<u>UNIT</u>	<u>GAMES</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
27 MRD	0	0	3	3
7 TD	2	2	0	2
11 TF	1	3	2	0
TOTAL	3	5	5	5

TABLE C-17

SOVIET BATTALIONS LOST OR INEFFECTIVE

<u>UNIT</u>	<u>GAMES</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
27 MRD	8	4	8	9
7 TD	5	5	4	6
11 TD	0	6	3	0
TOTAL	13	15	15	15

TABLE C-18

SOVIET FATIGUE LEVELS

<u>UNIT</u>	<u>GAMES</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
1/91 MR	N/A*	2	1	3
2/91 MR	1	1	N/A	3
3/91 MR	1	2	1	N/A
4/91 MR/T	N/A	0	3	N/A
1/92 MR	N/A	N/A	N/A	N/A
2/92 MR	1	0	N/A	3
3/92 MR	1	1	3	N/A
4/92 MR/T	1	2	N/A	3
1/93 MR	N/A	1	2	N/A
2/93 MR	0	1	N/A	N/A
3/93 MR	N/A	2	N/A	3
4/93 MR	N/A	0	N/A	N/A
1/94 T	N/A	N/A	2	N/A
2/94 T	2	1	2	N/A
3/94 T	0	N/A	3	3
26/27 RECON	3	2	1	3
27/27 T	N/A	N/A	N/A	3
27MRD SUBTOTAL	10	15	18	24
1/25 T	1	2	1	3
2/25 T	N/A	2	2	0
3/25 T	N/A	N/A	1	N/A
1/26 T	3	1	N/A	3
2/26 T	N/A	2	2	1
3/26 T	1	N/A	N/A	N/A
1/27 T	2	1	1	N/A
2/27 T	3	N/A	3	3
3/27 T	2	0	N/A	3
1/28 MR	N/A	N/A	3	N/A
2/28 MR	2	1	3	N/A
3/28 MR	N/A	1	2	N/A
4/28 MR/T	2	N/A	N/A	3
7/7 RECON	3	2	3	3
7 TD SUBTOTAL	19	12	21	19
1/33 T	2	1	3	3
2/33 T	3	2	3	2
3/33 T	2	1	3	2
1/34 T	2	2	1	1
2/34 T	0	N/A	3	2
3/34 T	2	N/A	N/A	0
1/35 T	1	2	N/A	1
2/35 T	1	0	2	2

TABLE C-18 (Cont)

3/35 T	1	0	3	2
1/36 MR	2	N/A	2	1
2/36 MR	1	N/A	3	2
3/36 MR	1	N/A	3	1
4/36 MR/T	0	N/A	3	1
11/11 RECON	1	1	N/A	3
11TD SUBTOTAL	19	9	29	23
1 GTA TOTAL	48	36	68	66

* Unit destroyed or ineffective; fatigue level not measured.

TABLE C-19

AVERAGE SOVIET BATTALION COMBAT STRENGTH LOST

<u>UNIT</u>	<u>GAMES</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
27 MRD	3.18	1.82	3.35	3.94
7 TD	3.07	2.86	2.57	3.43
11 TD	0.29	3.29	2.43	0.36
1 GTA	2.24	2.60	2.82	2.67

TABLE C-20

AVERAGE SOVIET BATTALION COMBAT/COMBAT SUPPORT STRENGTH LOST

<u>GAMES</u>			
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
2.58	2.86	2.86	2.72

TABLE C-21

AVERAGE SOVIET SURVIVING BATTALION FATIGUE LEVEL

<u>UNIT</u>	<u>GAMES</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
27 MRD	1.11	1.15	2.00	3.00
7 TF	2.11	1.33	2.10	2.375
11 TD	1.36	1.125	2.64	1.64
1 GTA	1.50	1.20	2.27	2.20

TABLE C-22

PERCENTAGE OF SOVIET COMBAT STRENGTH LOST¹

<u>UNIT</u>	<u>GAMES</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
27 MRD	45.4	26.1	47.9	56.3
7 TD	43.9	40.8	36.7	49.0
11 TD	4.1	46.9	34.7	5.1
1 GTA	32.1	37.1	40.3	38.1

Note: ¹ 1 GTA began combat with 315 T/O point equivalents as its Combat Strength.

TABLE C-23

PERCENTAGE OF SOVIET COMBAT/COMBAT SUPPORT
STRENGTH LOST¹

<u>GAMES</u>			
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
31.1	34.5	34.5	32.8

Note: ¹ 1 GTA began combat with 315 T/O point equivalents as its Combat Strength and 58 T/O point equivalents as its Combat Support Strength; 373 T/O point equivalents total.

4. Exchange Ratios

The Exchange Ratios provided in Table C-24 are based on the data contained in the preceding paragraphs. The numbers reflect Soviet Losses - U.S. Losses (the higher the number, the more favorable the result for the U.S.).

TABLE C-24

EXCHANGE RATIOS

<u>TYPE OF LOSS</u>	<u>GAMES</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Battalions ¹	2.17	7.50	1.875	3.75
Combat Strength	2.35	5.57	2.54	4.80
Combat/Combat Support Strength	2.16	5.84	2.45	4.22

Note: ¹ Battalions lost or ineffective.

5. Remaining Strength Ratios

The Remaining Strength Ratios provided in Table C-25 are based on the data in the preceding paragraphs. The numbers reflect Soviet Remaining Strength (or Fatigue Level) - U.S. Remaining Strength (or Fatigue Level) (The lower the number, the more favorable the result for the U.S.)

TABLE C-25

REMAINING STRENGTH RATIOS

<u>TYPE OF STRENGTH (OF FATIGUE)</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Battalions ¹	4.57	2.73	6.00	3.33
Combat Strength ²	4.51	2.52	5.00	2.80
Combat/Combat Support Strength ³	3.35	2.07	3.19	2.41
Fatigue ⁴	0.81	2.18	1.89	1.41
Total Combat Strength ⁵	4.46	2.83	4.59	2.95
Total Combat/Combat Support Strength ⁶	3.52	2.34	3.30	2.57

Notes: ¹ # of Soviet battalions not lost or ineffective at game termination ÷ # of U.S. battalions not lost or ineffective at game termination; the ratio at the beginning of Combat was 3.46.

² Combat Strength of effective Soviet battalions at game termination ÷ Combat Strength of effective U.S. battalions at game termination; the ratio at the beginning of combat was 3.46

³ Combat Strength + Combat Support Strength of effective Soviet battalions at game termination ÷ Combat Strength + Combat Support Strength of effective U.S. battalions at game termination; the ratio at the beginning of combat was 2.95

TABLE C-25 (Cont)

- 4 Average Soviet Battalion Fatigue Level \div Average U.S. Battalion Fatigue Level, the ratio at the beginning of combat was 1.0.
- 5 Combat Strength of all Soviet battalions not destroyed at game termination \div Combat Strength of all U.S. battalions not destroyed at game termination; the ratio at the beginning of combat was 3.46.
- 6 Combat Strength + Combat Support Strength of all Soviet battalions not destroyed at game termination \div Combat Strength + Combat Support Strength of all U.S. battalions not destroyed at game termination; the ratio at the beginning of combat was 2.95.

6. Game Histories and Game Termination Combat Strength Differential Comparisons

a. Annexes C-1 to C-4 are "snap-shots" of the tactical situation of the Games taken every 8 hours during each Game.

b. The overlay attached to the last map of each annex is the Game Termination Combat Strength Differential Comparison. These comparisons portray the relative Force/Space ratios of each Game at its termination point. They were used in the analysis of the Games by the researchers to project the likelihood of the Soviet Army's success in achieving its objectives. The numbers shown (by Troop or Battalion for US or by Battalion or Regiment for the Soviets) were computed as shown in Table C-26.

TABLE C-26

U.S. 1/39 MECH COMPUTATION

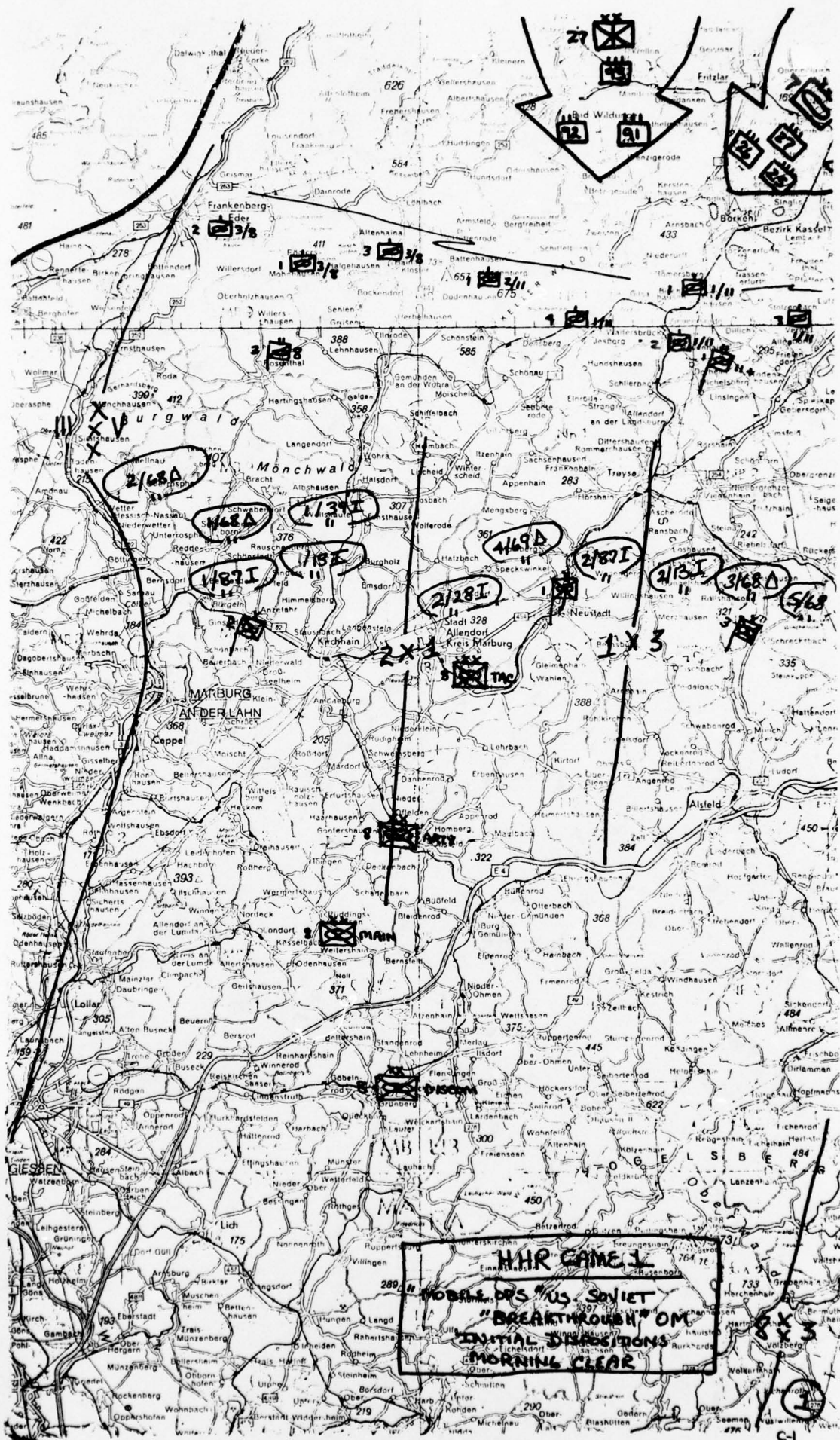
<u>FACTOR</u>	<u>REMAINING T/O</u>	<u>FATIGUE LEVEL¹</u>	<u>COMBAT VALUE²</u>	<u>POTENTIAL COMBATS³</u>	<u>FINAL COMBAT DIFFERENTIAL</u>
1/39 Values	5	3	11	2	N/A
Combat Differential (+5 Impact		-3	+11)	x2	26

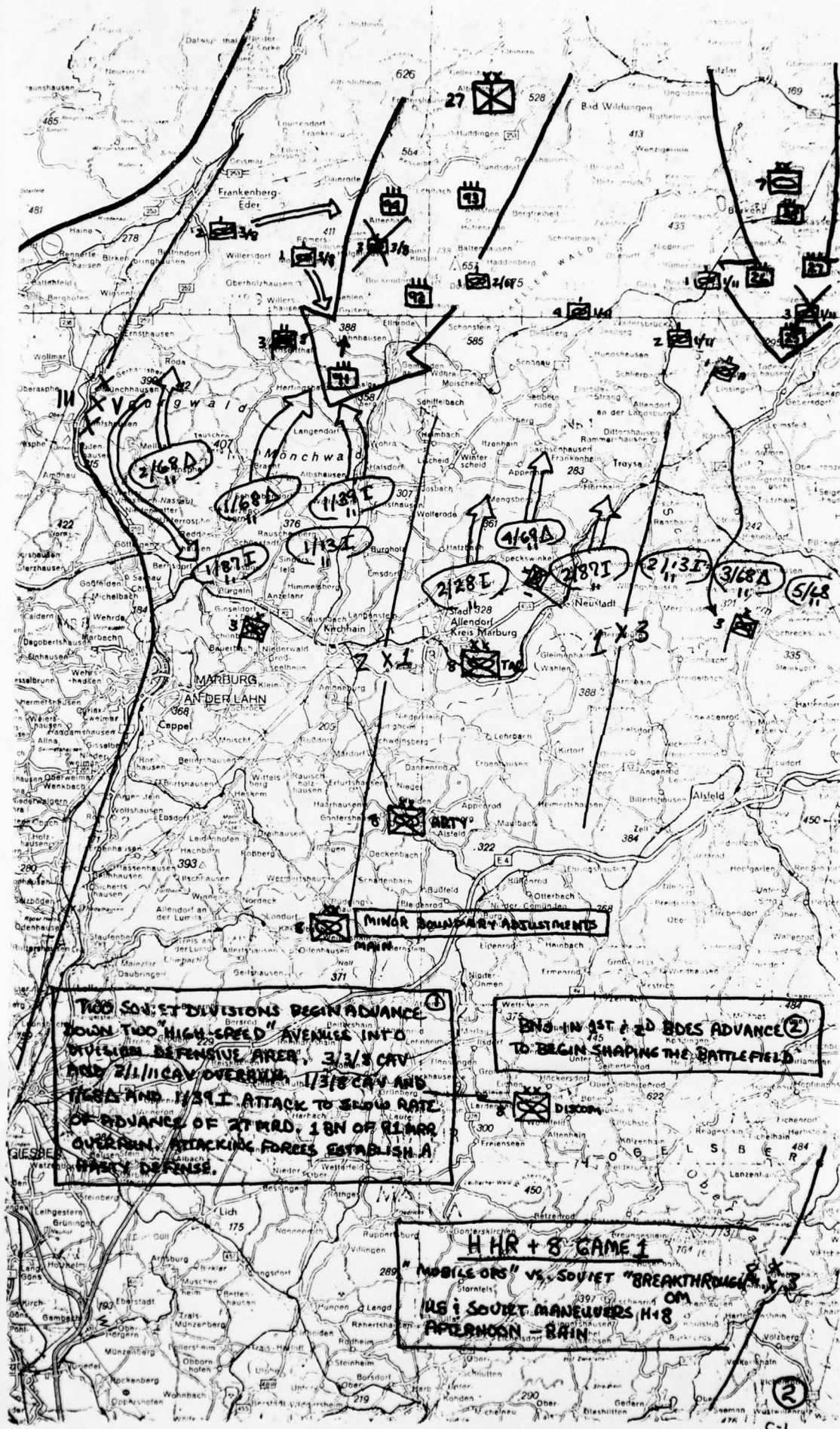
- Notes:
- ¹ Fatigue level impact depends on whether unit is on offense or defense; in this case defense.
 - ² Combat Value impact depends on whether unit is on offense or defense; in this case defense.
 - ³ Potential Combats impact is a multiplier which depends on maximum number of combats unit could take part in and suffer a loss of 2 T/O points in each combat (rounded down); in this case $5/2 = 2.5$ or 2.

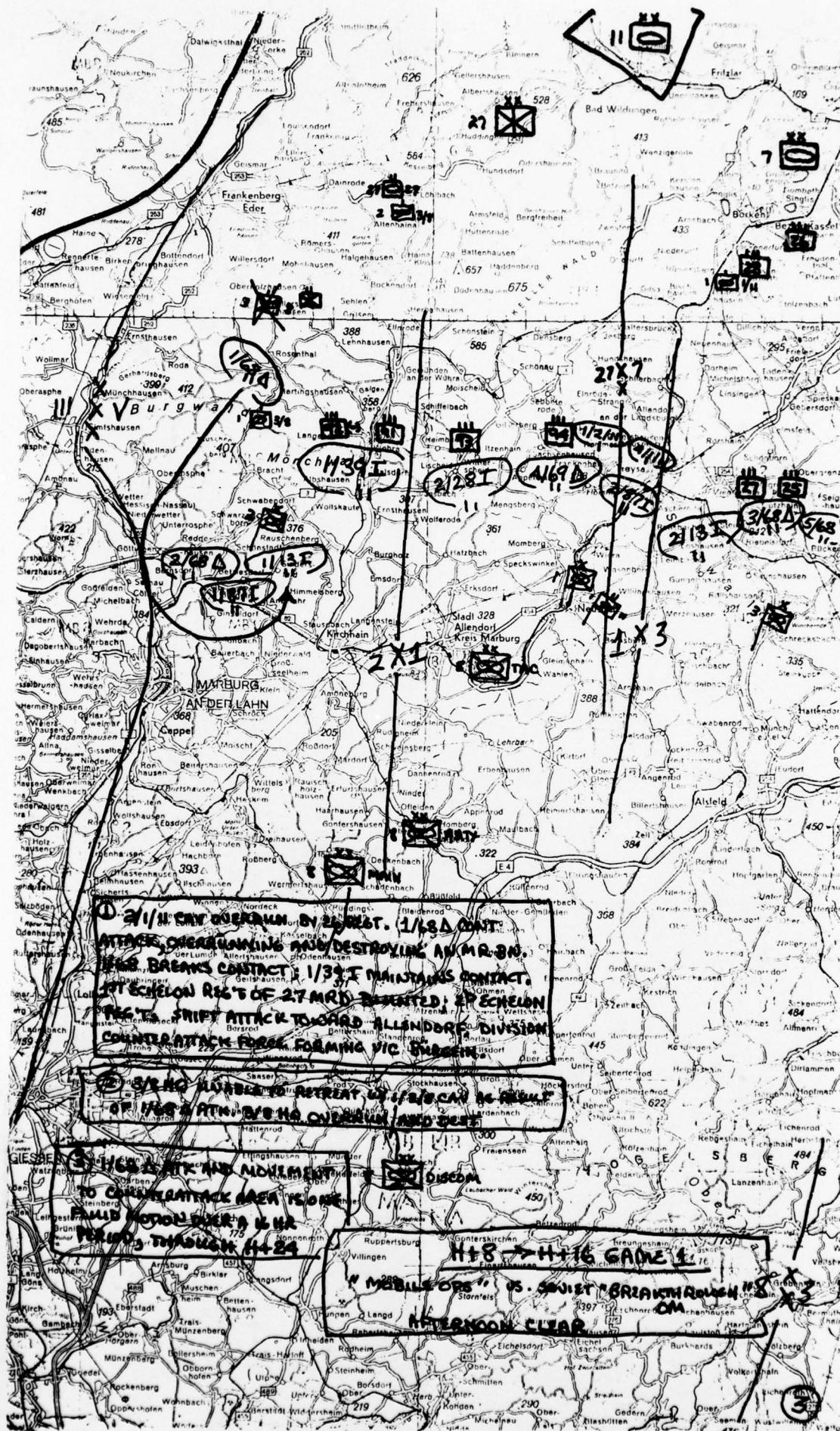
c. The above method parallels the computational logic used in the war game to resolve combat, excluding external influences such as Terrain, Weather, Combat Support, etc.

ANNEX C-1

GAME 1

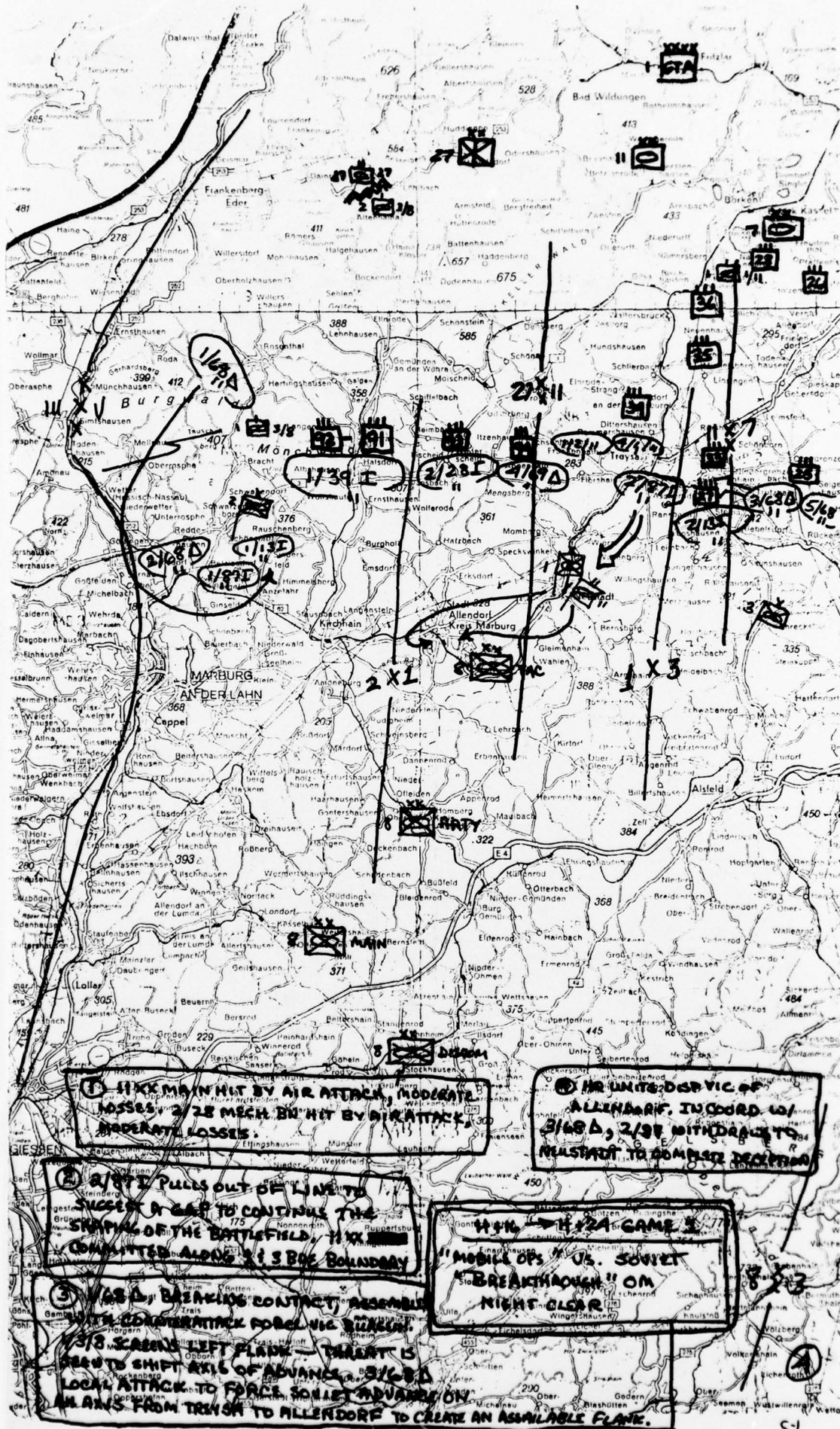


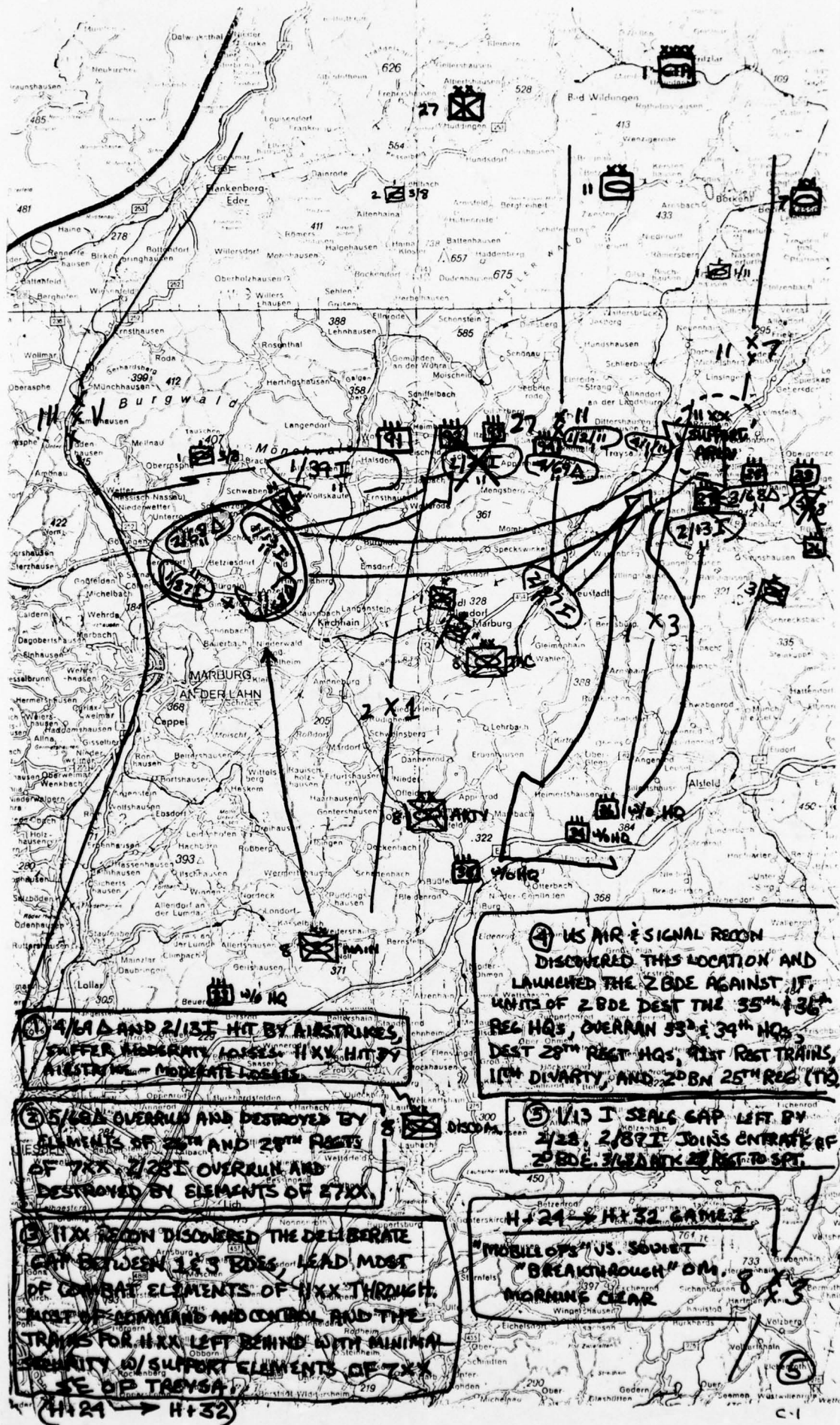




21/11 CONT. OVERWHELMING AND DESTROYING AN MR BN
ATTACK BREAKS CONTACT: 1/13A I MAINTAINS CONTACT
1/13A REG'T OF 27 MR BN DEFEATED: 1/13A
REG'T SHIFT ATTACK TO CHAS ALLIANCE DIVISION
COUNTERATTACK FORCE FORMING VIC. DRESEN
21/11 CONT. OVERWHELMING AND DESTROYING AN MR BN
ATTACK BREAKS CONTACT: 1/13A I MAINTAINS CONTACT
1/13A REG'T OF 27 MR BN DEFEATED: 1/13A
REG'T SHIFT ATTACK TO CHAS ALLIANCE DIVISION
COUNTERATTACK FORCE FORMING VIC. DRESEN

H+8 -> H+16 GAME 1
"MOBILE OPS" VS. SOVIET "BREAKTHROUGH" #3
AFTERNOON CLEAR





④ 4/14 AND 2/13T HIT BY AIRSTRIKES, SUFFER MODERATE LOSSES. H+XX HIT BY AIRSTRIKE - MODERATE LOSSES.

⑤ 5/14A OVERRUN AND DESTROYED BY ELEMENTS OF 26TH AND 28TH REGTS OF 7XX. 2/28T OVERRUN AND DESTROYED BY ELEMENTS OF 27XX.

⑥ H+XX RECON DISCOVERED THE DELIBERATE GAP BETWEEN 1ST 3 BDES, LEAD MOST OF COMBAT ELEMENTS OF H+XX THROUGH. MOST OF COMMAND AND CONTROL AND THE TRAPS FOR H+XX LEFT BEHIND WITH MINIMAL SECURITY W/ SUPPORT ELEMENTS OF 7XX SE OF TROYSAI.

(H+21 -> H+32)

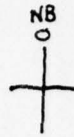
④ US AIR & SIGNAL RECON DISCOVERED THIS LOCATION AND LAUNCHED THE 2 BDE AGAINST IT. UNITS OF 2 BDE DEST THE 35TH & 36TH REG HQS, OVRMAN 33RD & 34TH HQS, DEST 28TH REGT HQS, 1ST REGT TRAINS, 10TH DIVARTY, AND 20BN 25TH REG (TC).

⑤ 1/13 T SEAL GAP LEFT BY 2/28, 2/18 T JOINS ENTRANCE OF 2 BDE. 3/14A TNC AT REGT SPT.

H+24 - H+32 GAME 2
"MOBILOPS" VS. SOVIET
"BREAKTHROUGH" ON 8
MORNING CLEAR

C-1

27/27 (+1)
2/3/8 (+24)



4/11 (+14)

1/3/8 (+10) 1/39 (+26) 1/13 (+51) 1/2/11 (+16) 1/8/7 (+8) 2/8/7 (+30) 3/6/8 (+5) 2/6/8 (+4) 4/8 (+21) 1-2/2/7 (+2) 2/13 (+18) 3/24 (+1)

OVERLAY SHOWS THE COMBAT DIFFERENTIAL COMPARISON NUMBERS ARE CALCULATED BASED UPON CURRENT MISSION AND ACTIVITY OF EACH UNIT

US units within dotted line are attacking - there, the calculated combat value is an offensive calculation. All other units for US have defensive numbers calculated.

7/7 (0)
3/27 (+6)

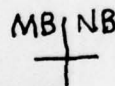
34R (+43) 36R (+78)

35R (+53)

1-3/25 (+11)

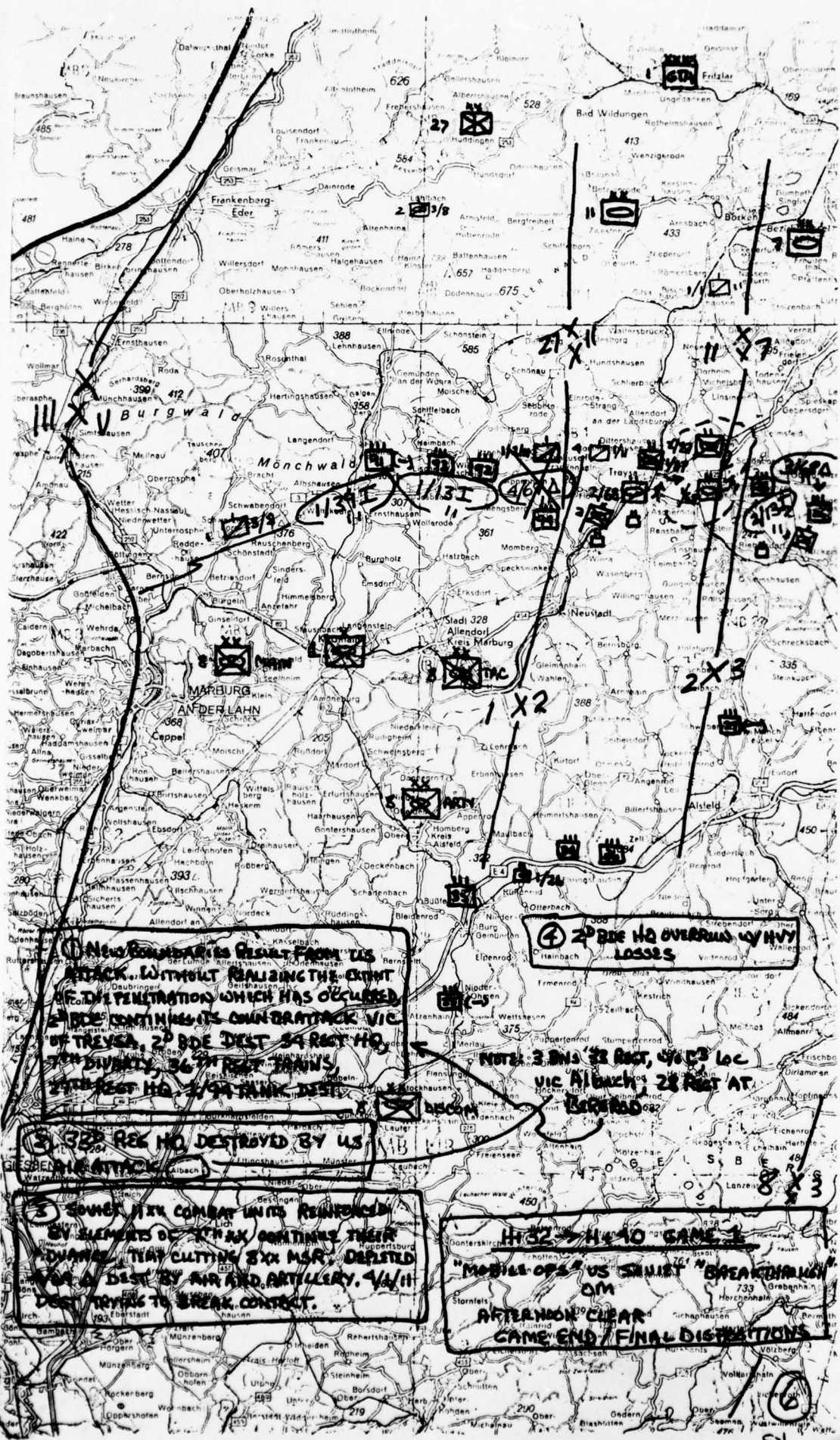
28R (+19)

33R (+27)



GAME 1, H+40
MOBILE OPS
vs.
BREAKTHROUGH
Use w/ game history map # 6

(5A)
C-1



① New Companies Result From US Attack. Without Realizing The Extent Of The Penetration Which Has Occurred, 2 PDE Continues Its Counterattack Vic Of Treves, 20 PDE DEST 34 REG HQ, 7TH DIV, 36TH REGT, 24TH REGT HQ, 1/34 TANK DEST.

④ 2 PDE HQ Overrun W/Heavy Losses

NOTE: 3 DIV 32 REGT, 46 C3 LOC VIC AIBACH, 28 REGT AT BERNHARD

③ 322 REG HQ DESTROYED BY US

⑤ 308TH REGT COMBAT UNITS REINFORCED BY ELEMENTS OF 3TH AX CONTINUE THEIR CHARGE, TRY CUTTING 3TH AX, DEPLETED FOR A DEST BY AIR AND ARTILLERY, 4/11 DEST TRYING TO BREAK CONTACT.

H-32 - H-40 SAME 1

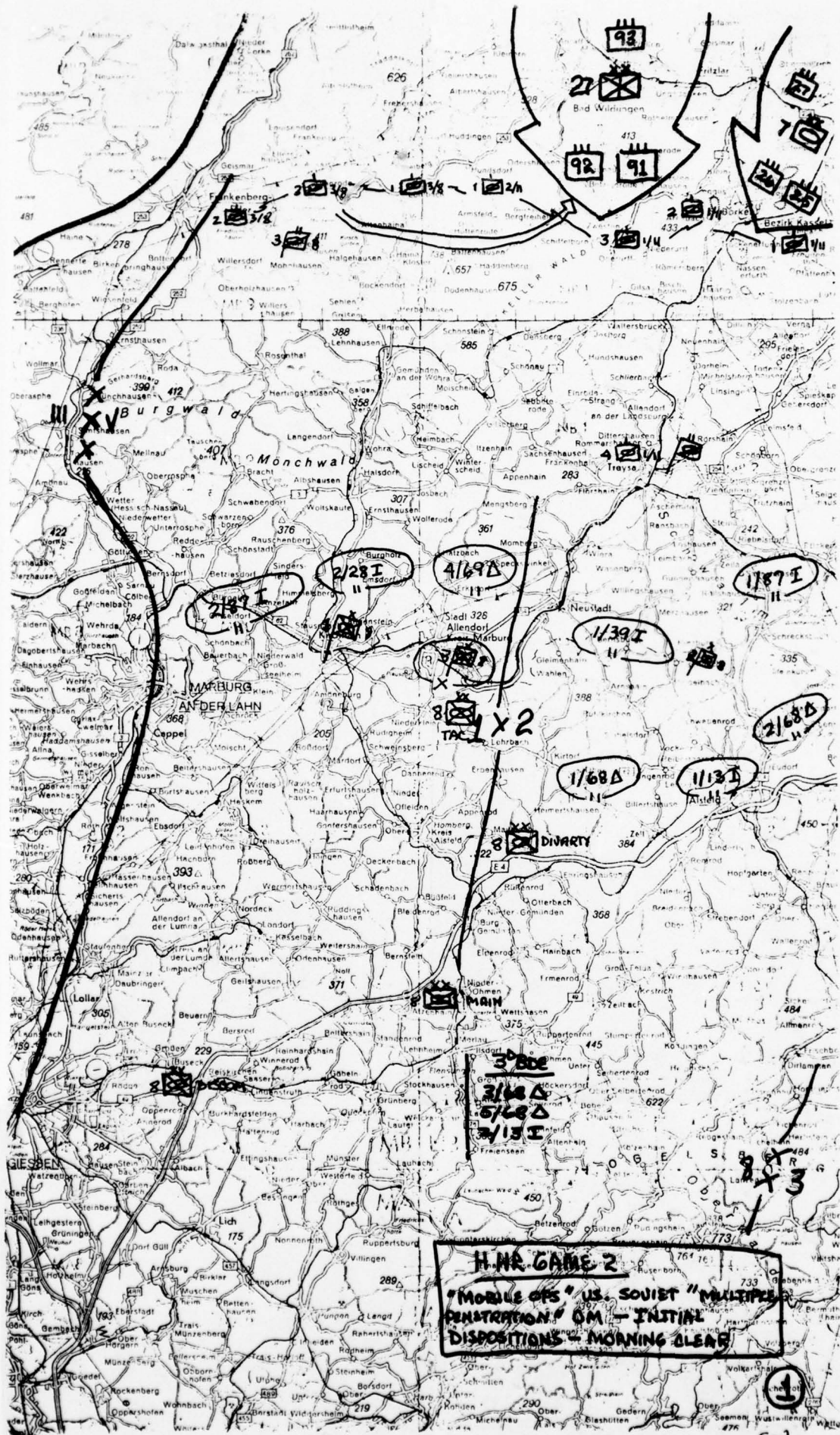
MOBILE OPS US SNIPE BREAKTHROUGH OM

AFTERNOON CLEAR
CAME END / FINAL DISPOSITIONS

⑥

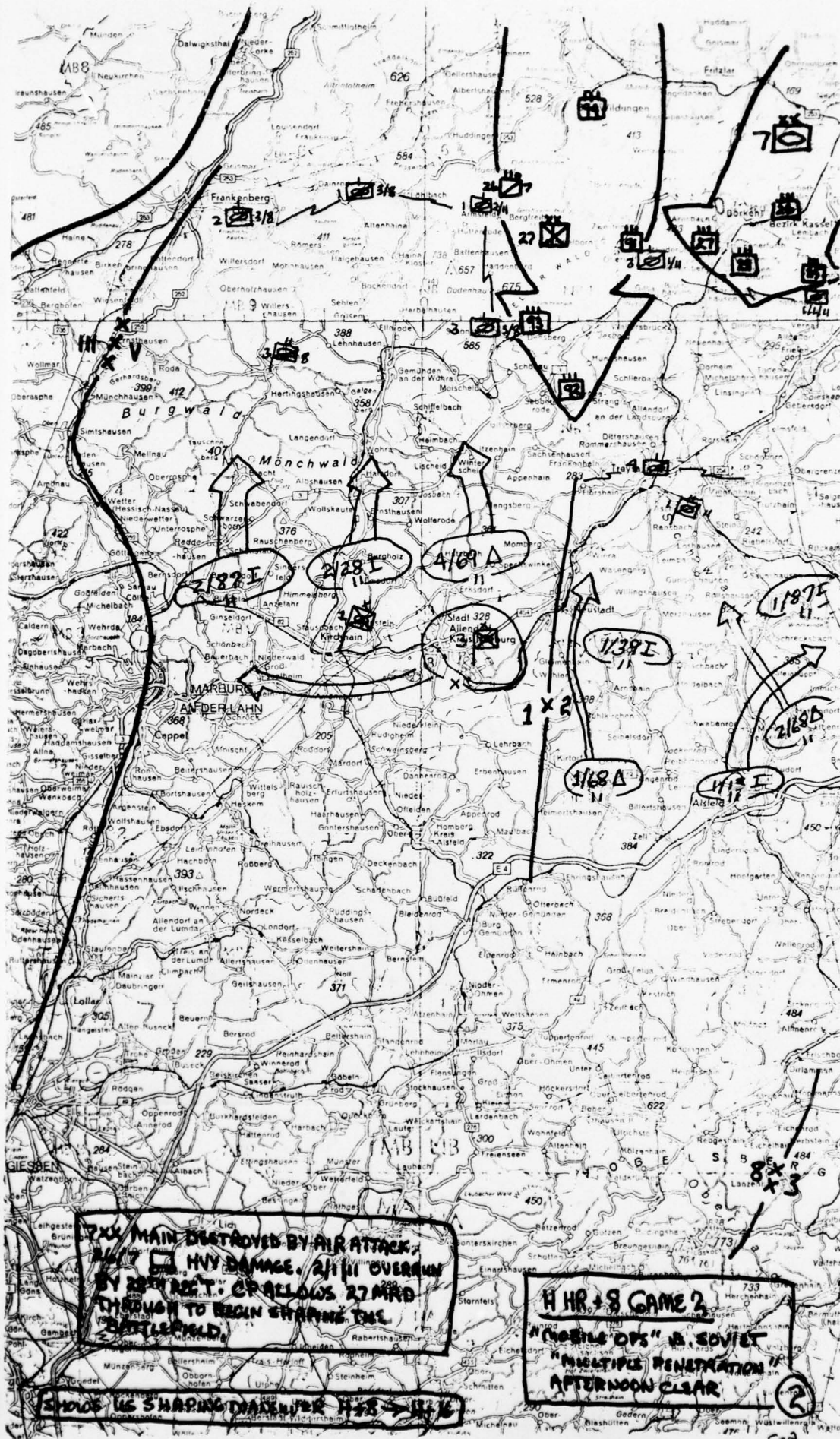
ANNEX C-2

GAME 2



H.N. GAME 2
"MOBILE OPS" US, SOVIET "MULTIPLE"
"PENETRATION" OM - INITIAL
DISPOSITIONS - MORNING CLEAR

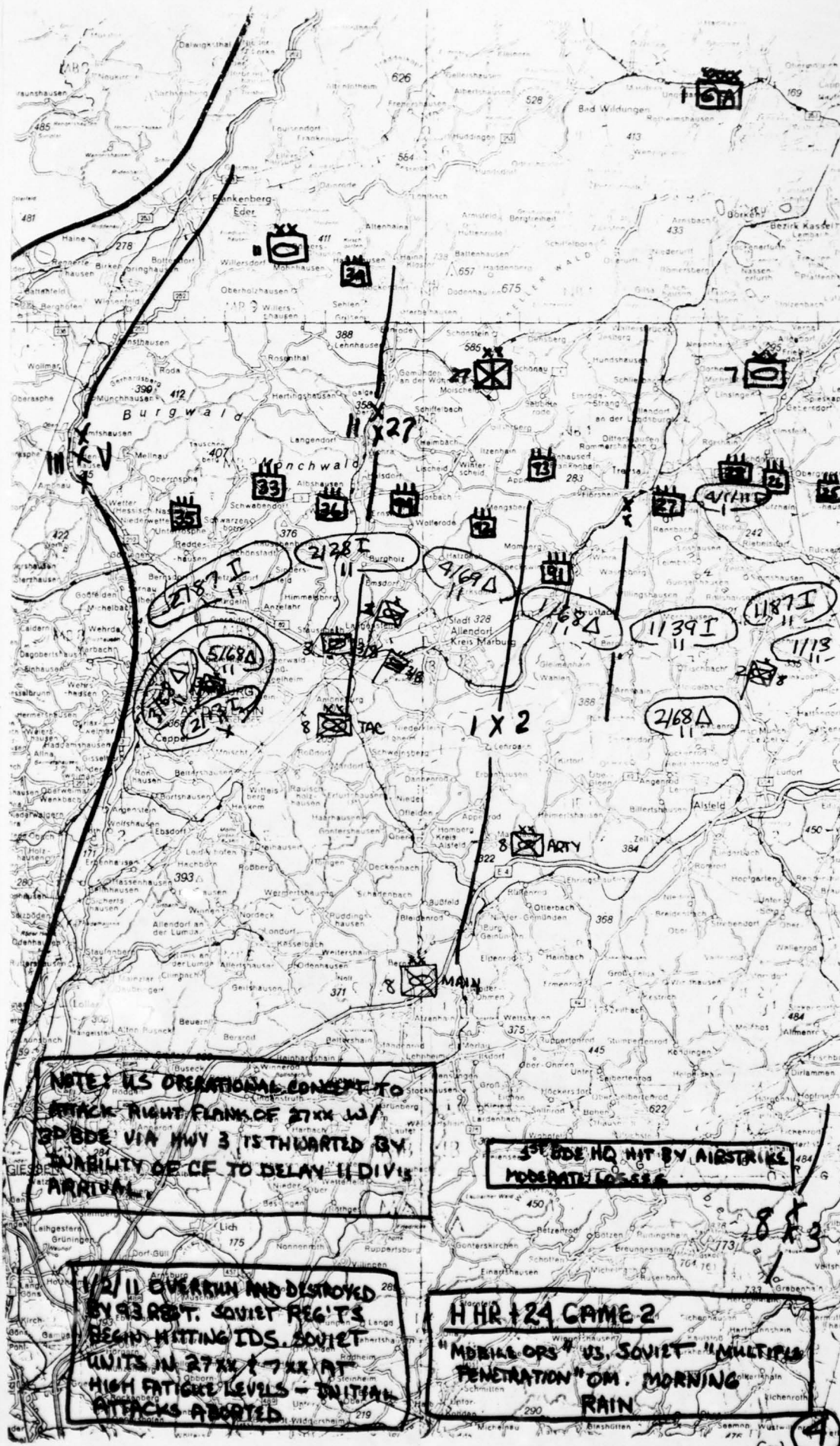
C-2

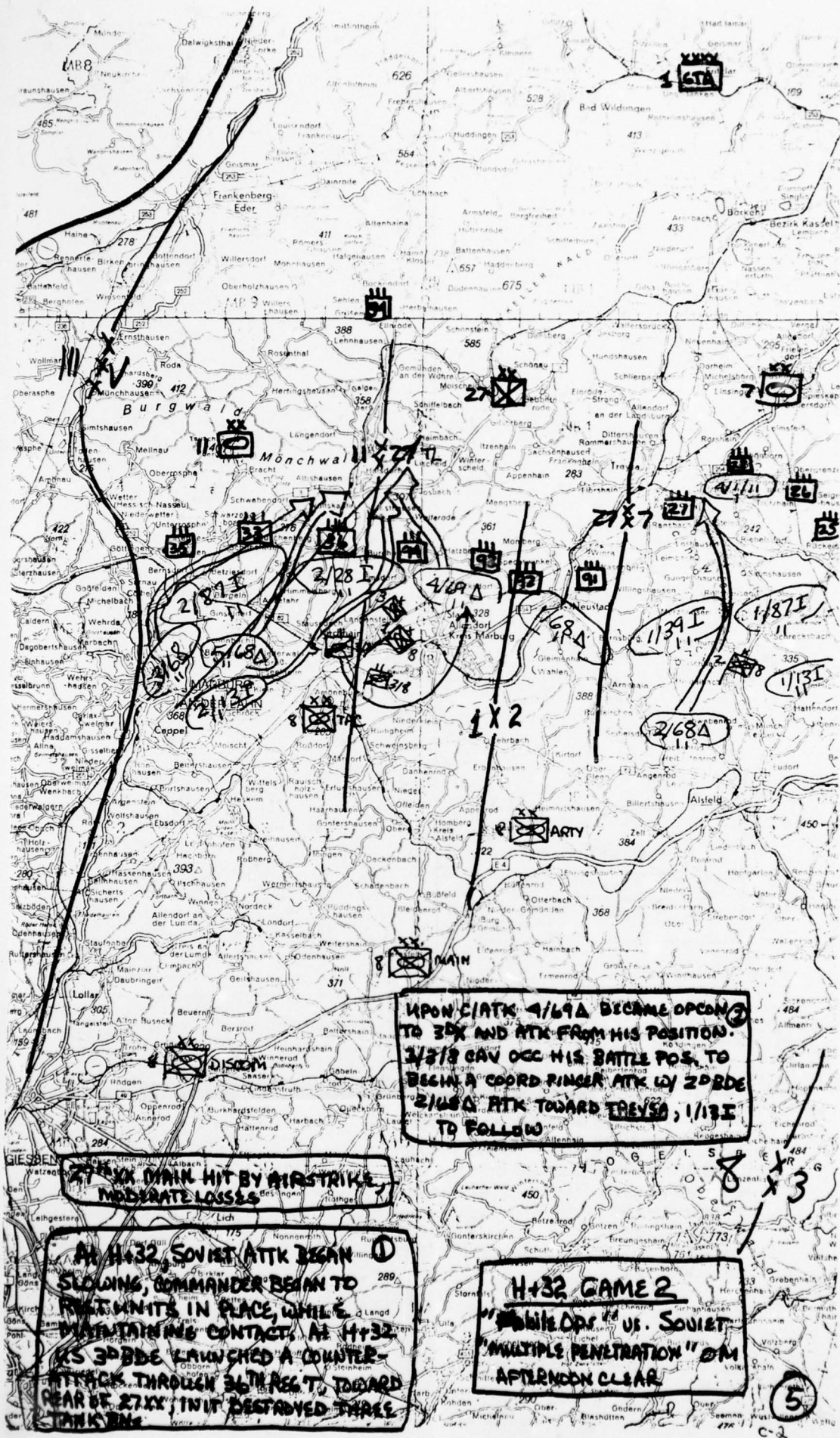


7XX MAIN DESTROYED BY AIR ATTACK
MNY DAMAGE. 21/11 OVERWUN
BY RETRACT. CRAWLERS 27 AND
THROUGH TO BEGIN SHAPING THE
BATTLEFIELD

SHOOT IS SHAPING DUE TO H-8 → 11/16

H HR + 8 GAME 2
"MOBILE OPS" IS SOVIET
"MULTIPLE PENETRATION"
AFTERNOON CLEAR





UPON CLARK 4/69A BECAME ODCOM
TO 30X AND ATK FROM HIS POSITION.
2/28 CAV OCC HIS BATTLE POS TO
BEGIN A COORD FINSLR ATK BY 20BDE
2/48G ATK TOWARD TREYSD, 1/13E
TO FOLLOW

27XX DIVIN HIT BY AIR STRIKE,
MODERATE LOSSES

AT 1132, SOVIET ATK BEGAN
SLOWING, COMMANDER BEGAN TO
REINFORCE IN PLACE, WHILE
MAINTAINING CONTACT. AT 1132
US 30BDE LAUNCHED A COUNTER-
ATTACK THROUGH 36TH REG T, TOWARD
REAR OF 27XX, UNIT DESTROYED THREE
TANKS

H+32 GAME 2
"DOWN OPS" VS. SOVIET
"MULTIPLE PENETRATION" OM
AFTERNOON CLEAR

5



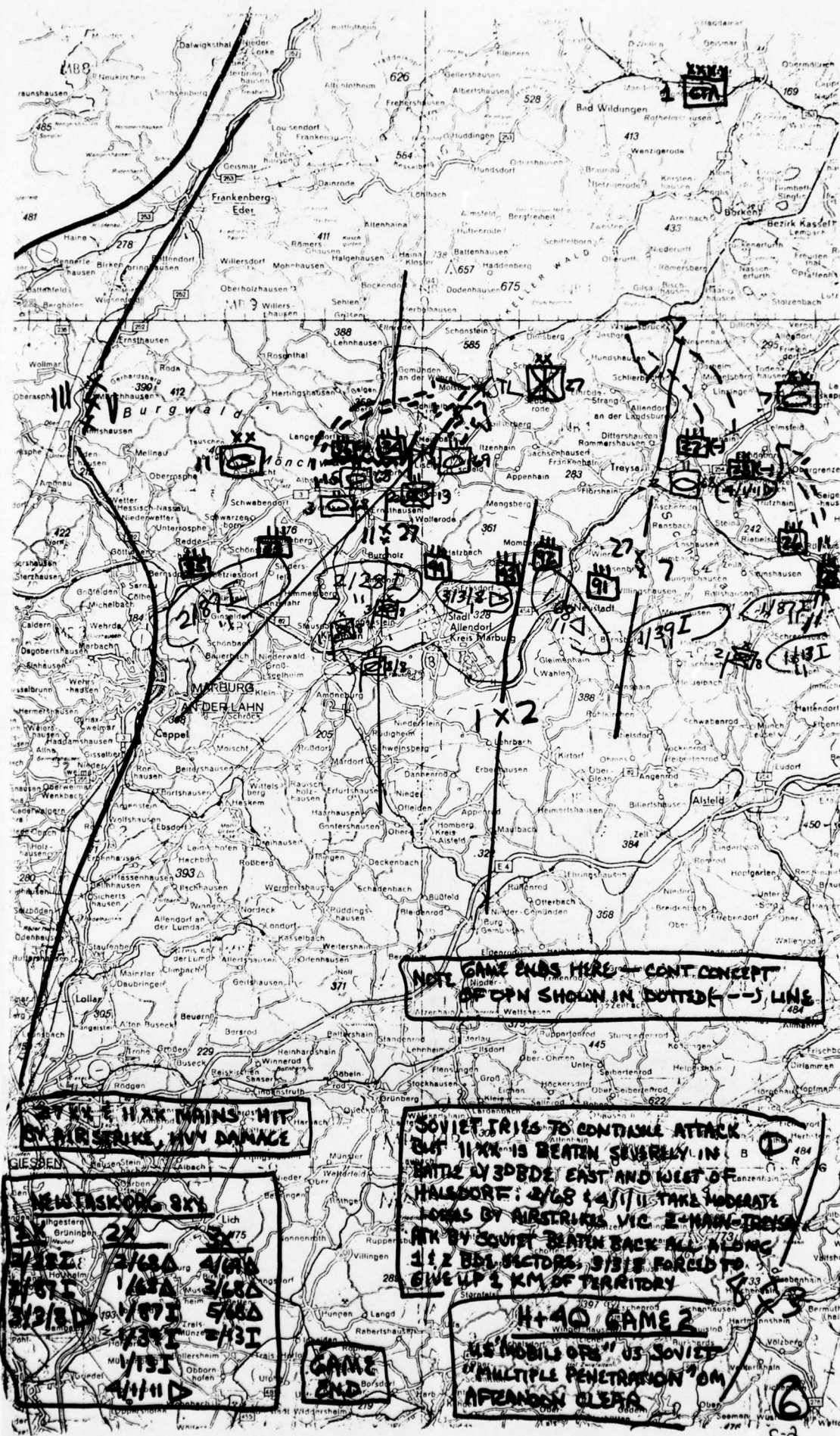
1/3 36R(11) 1/3 34R(10)
 (5/68(7)) 4/6(22)
 (2/68(30)) 2/13(18)
 35R(55) 33R(25) 11/14(10) 99R(23) 93R(30) 92R(45)
 2/87(30) 2/28(51) 3/3/8(16) 2/12(11) 91R(33)
 1/68(39) 24/27(9) 1/37(32)
 27R(35) 28R(29) 3/68(30) 4/11(16)
 26R(25) 25R(9) 7/7(0) 1/87(32) 1/13(45)

OVERLAY SHOWS THE
 COMBAT DIFFERENTIAL
 COMPARISON; NUMBERS
 ARE CALCULATED BASED
 UPON THE CURRENT MISSION
 AND ACTIVITY OF EACH UNIT
 US UNITS WITHIN DOTTED
 LINES ARE ATTACKING—THERE,
 THE CALCULATED COMBAT VALUE
 IS AN OFFENSIVE CALCULATION.
 ALL OTHER US UNITS HAVE
 DEFENSIVE VALUES CALCULATED.
 SOVIET UNITS FACING A US
 ATTACK ARE IN A HASTY
 DEFENSE—THEIR COMBAT
 VALUE IS A DEFENSIVE VALUE.



GAME 2, H+40
 MOBILE OPS
 VS
 MULTIPLE PENETRATION
 USE 4/CAME HISTORY MAP#6

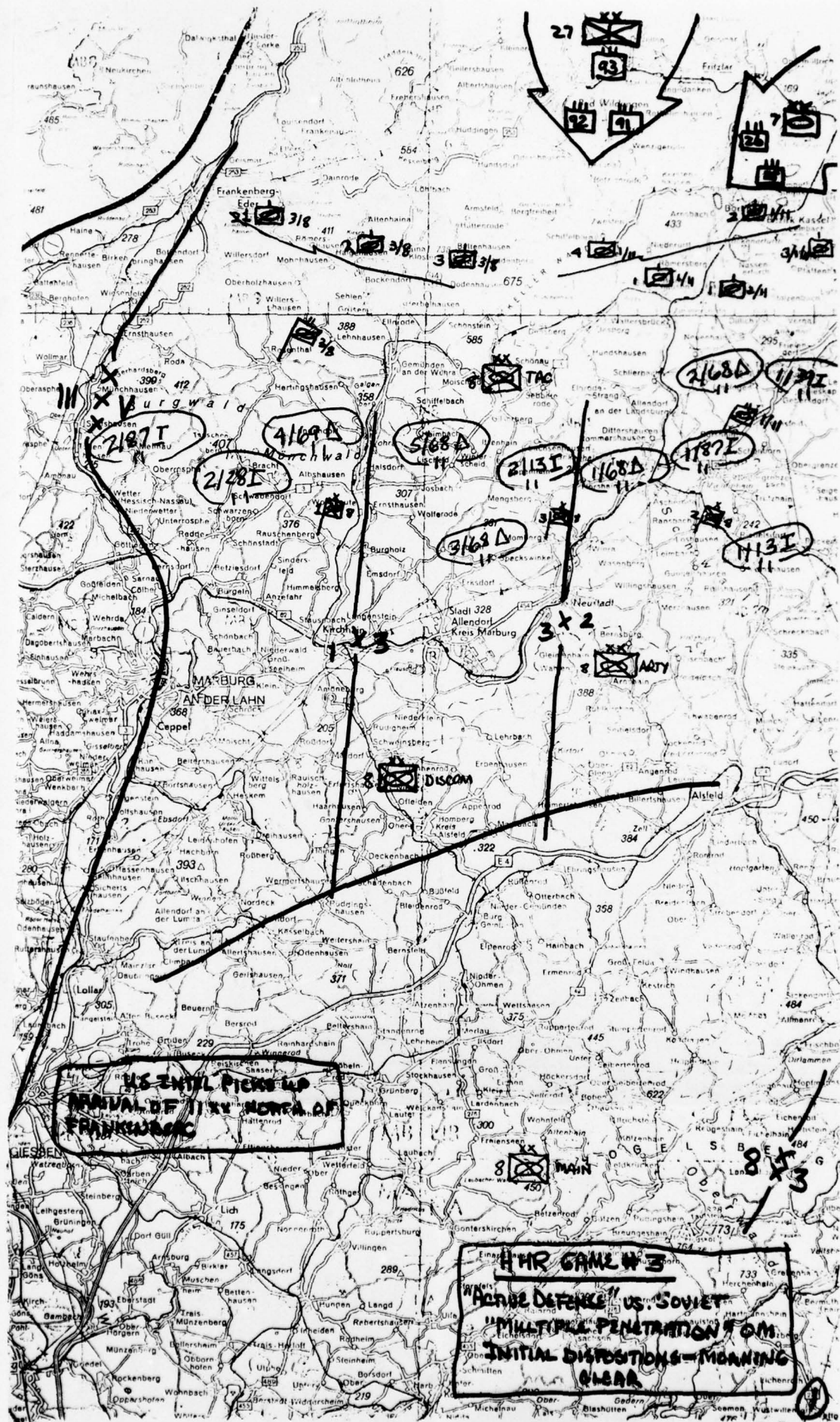
(5A)
 C-2

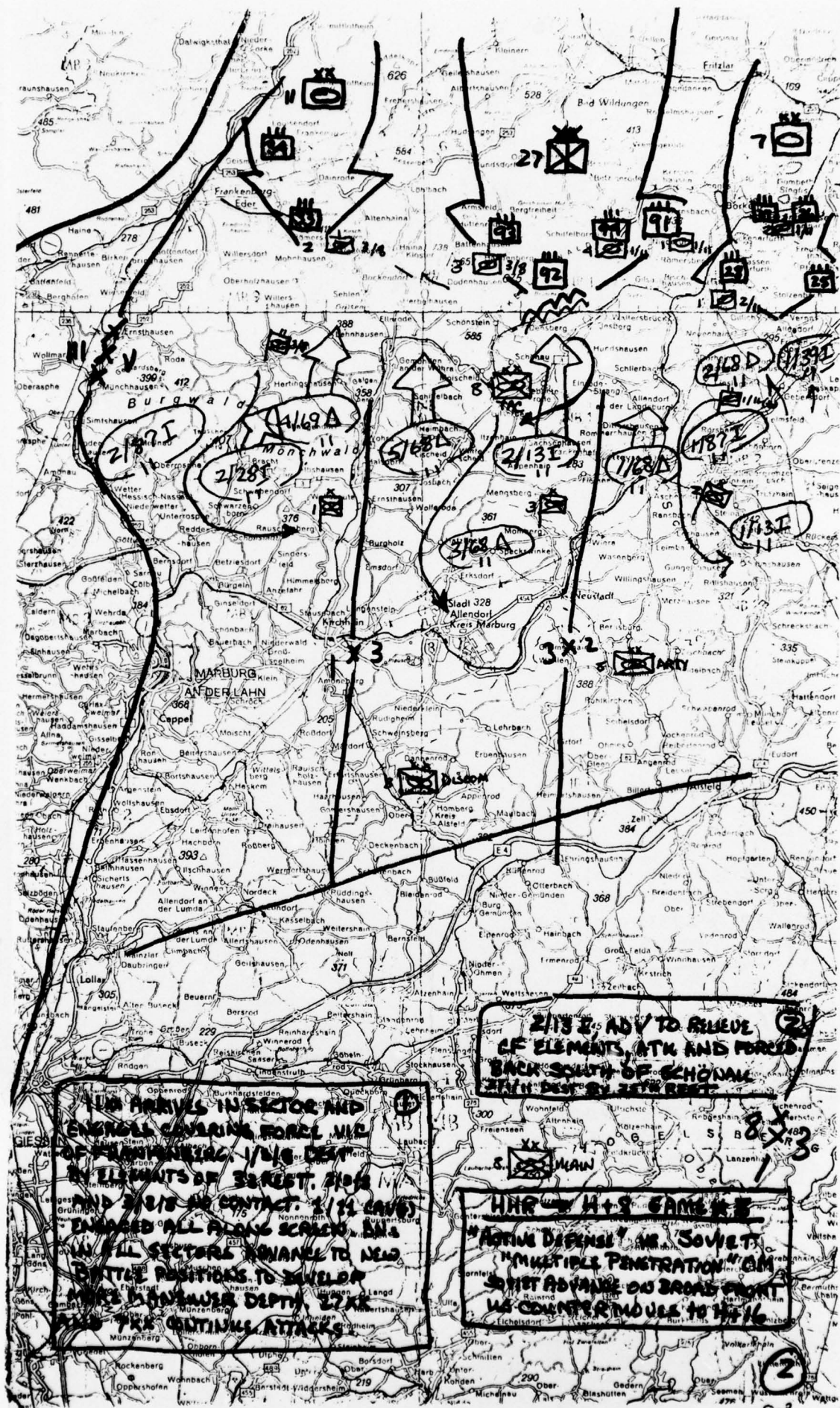


٢-٢

ANNEX C-3

GAME 3

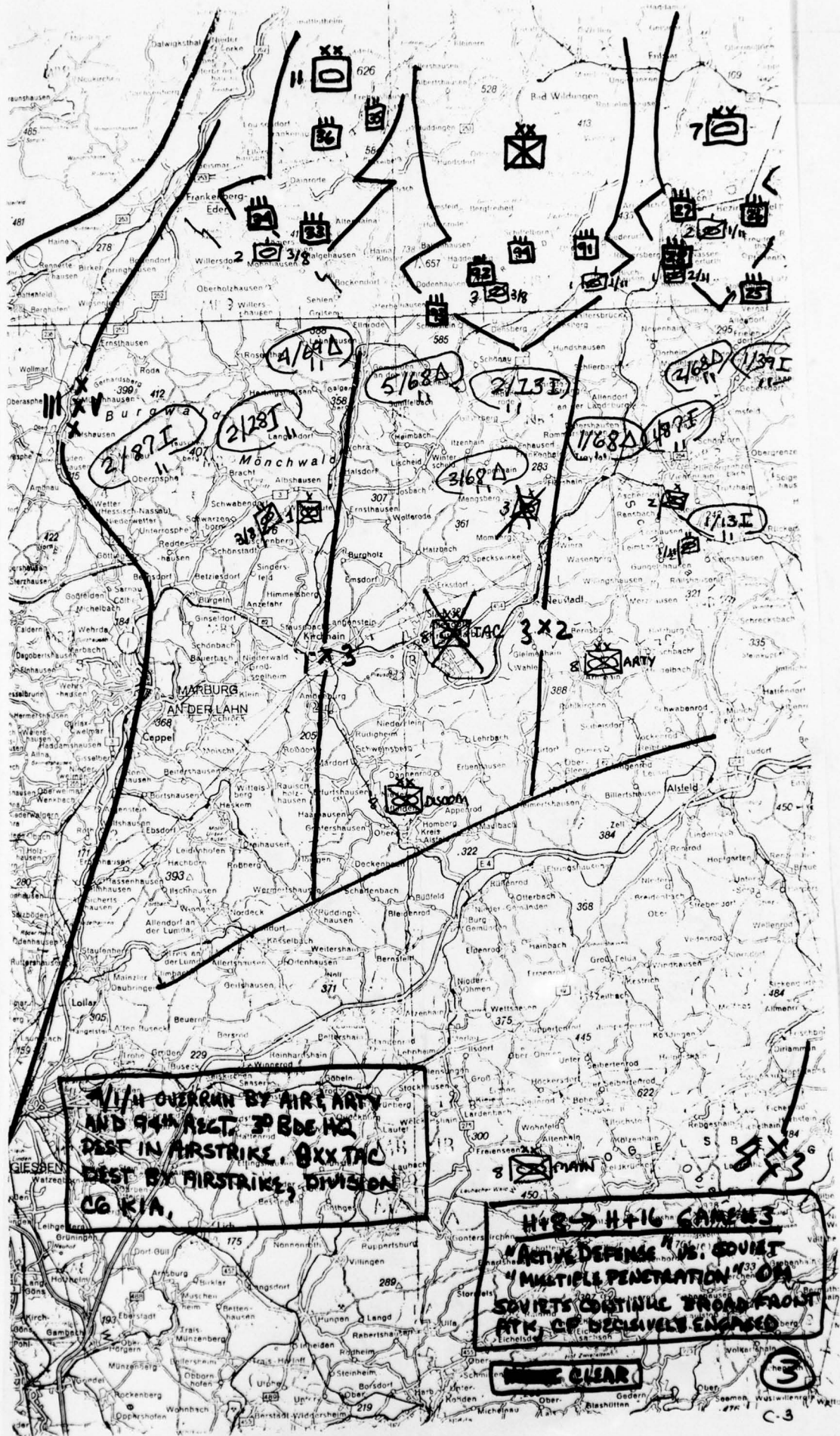


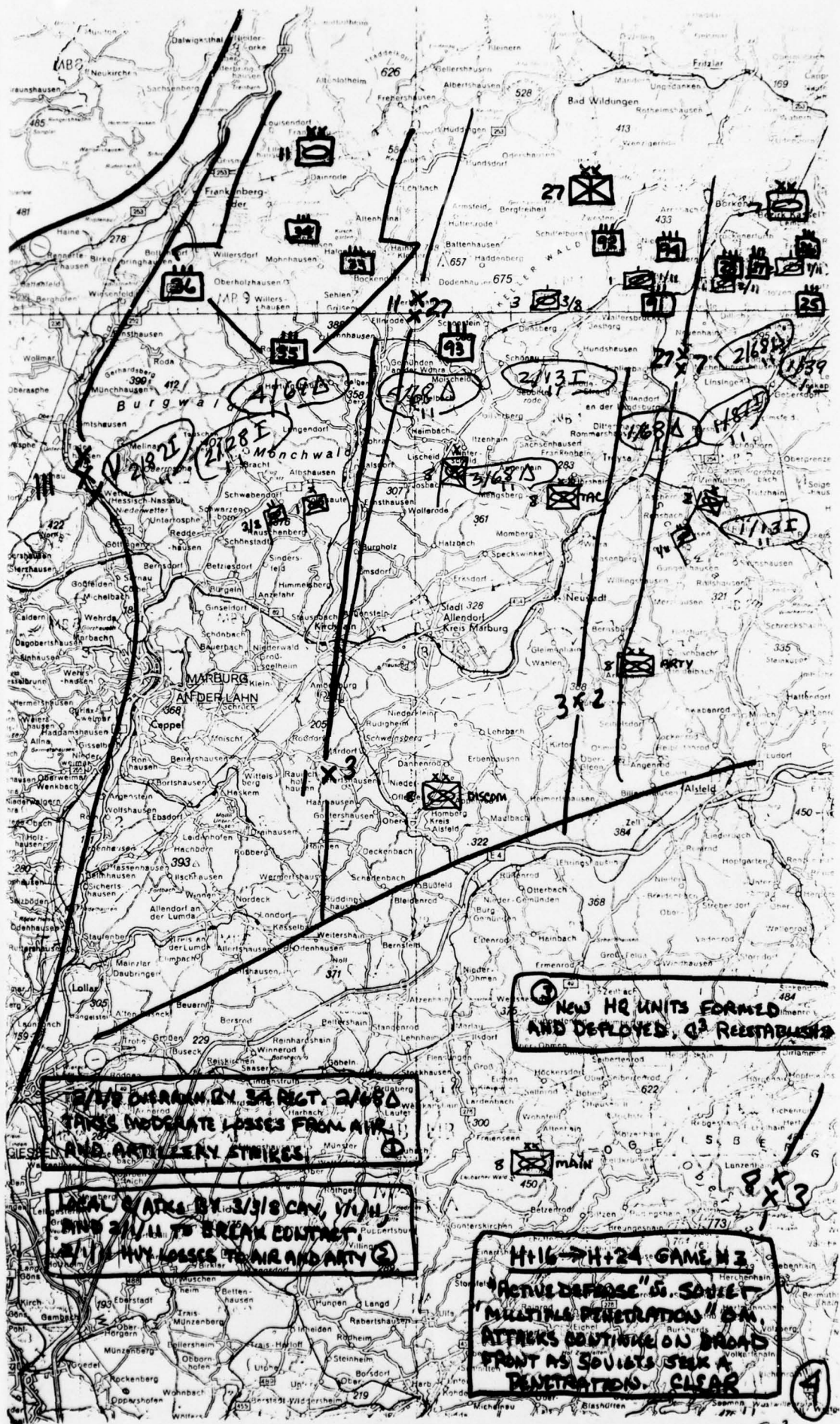


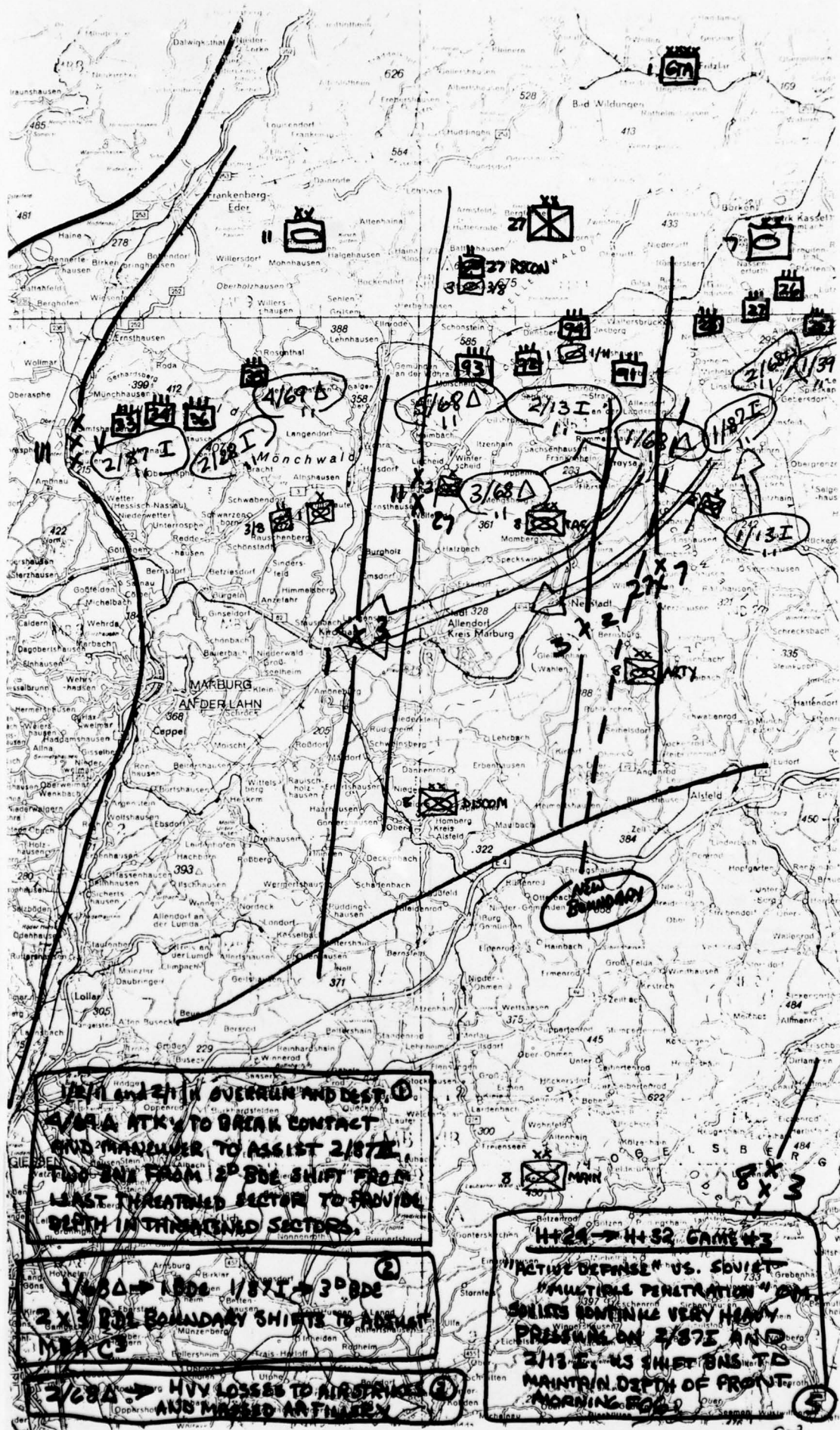
**1st MARVELS IN SECTOR AND
ENERGICALLY CARRYING FORWARD
OF PENETRATION 1/16 DEPT
BY ELEMENTS OF 3RD REGT. 2ND DIV
AND 3RD DIV IN CONTACT. 1/14 (LAW)
ENGAGED ALL ALONG SCENE. 2ND DIV
IN ALL SECTORS MANEUVER TO NEW
BATTLE POSITIONS TO DEVELOP
MORE DEEPER DEPTH. 2ND DIV
PREP. CONTINUOUS ATTACK.**

**2/13 E. ADV TO RELIEVE
OF ELEMENTS, ATK AND FORCED
BACK SOUTH OF SCHONAU
2ND DIV BY 3RD REGT.**

**HNR - H+S CAME TO
"ACTIVE DEFENSE" IN SOVIET
"MULTIPLE PENETRATION" ON
SOVIET ADVANCE ON 3RD DIV FRONT
US COUNTERMOVED TO H+S**





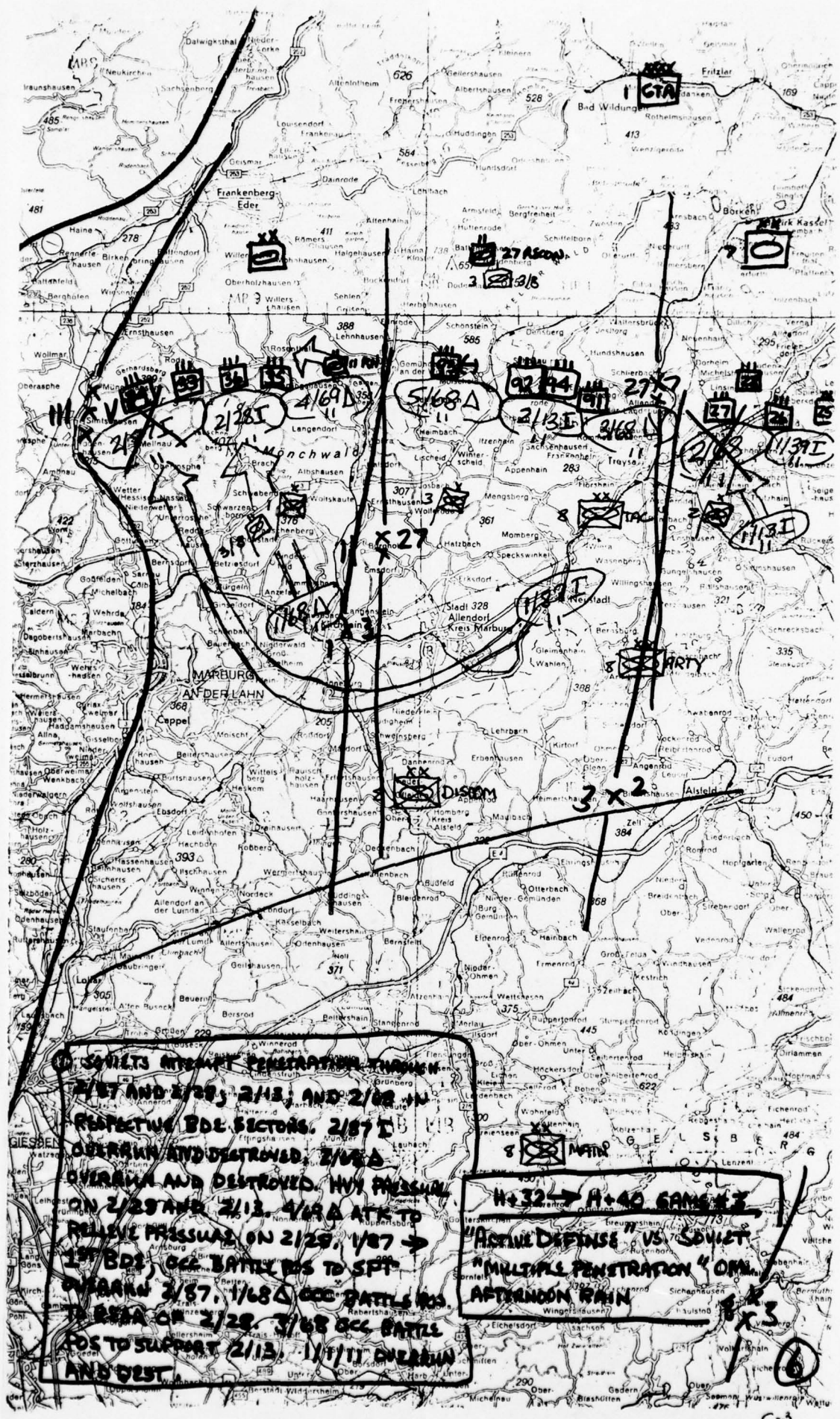


1/21 and 21/11 OVERRUN AND DESTROYED
 4/69 I ATTKY TO BREAK CONTACT
 AND MANEUVER TO ASSIST 2/87 I
 TWO BNS FROM 2D BDE SHIFT FROM
 LEAST THREATENED SECTOR TO PROVIDE
 DEPTH IN THREATENED SECTORS.

1/68 I → 1000 1/87 I + 3D BDE
 2 X 3 BDE BOUNDARY SHIFTS TO ADJUST
 MPA C3

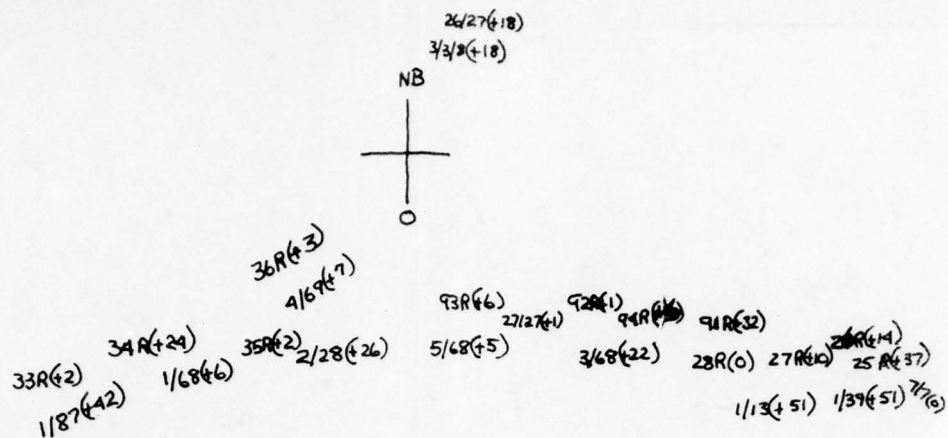
2/68 I → HVY LOSSES TO AIR STRIKES
 AND HEAVY ARTILLERY

11/24 → 11/32 GAMES 43
 "ACTIVE DEFENSE" VS. SOVIET
 "MULTIPLE PENETRATION" ON
 SOVIETS CONTINUE VERY HEAVY
 PRESSURE ON 2/87 I AND
 2/13 I. US SHIFTS BNS TO
 MAINTAIN DEPTH OF FRONT.
 MORNING 2002



SOVIETS ATTEMPT PENETRATION THROUGH
2/17 AND 2/18, 2/13, AND 2/12 IN
RESPECTIVE BDE SECTIONS. 2/17
OVERRAN AND DESTROYED. 2/13
OVERRAN AND DESTROYED. 2/12
ON 2/29 AND 2/13. 4/19 ATE TO
RELIEF PRESSURE ON 2/29. 1/87
1ST BDE, 6TH BATTALIES TO SP
OVERRAN 2/27. 1/68 A 6TH BATTALIES
TO BEAT ON 2/28. 3/68 6TH BATTALIES
TO SUPPORT 2/13. 11/11 OVERRAN
AND DEST.

H+32 → H+40 GAME 1
"ACTIVE DEFENSE" VS. SOVIET
"MULTIPLE PENETRATION" ON
AFTERNOON RAIN

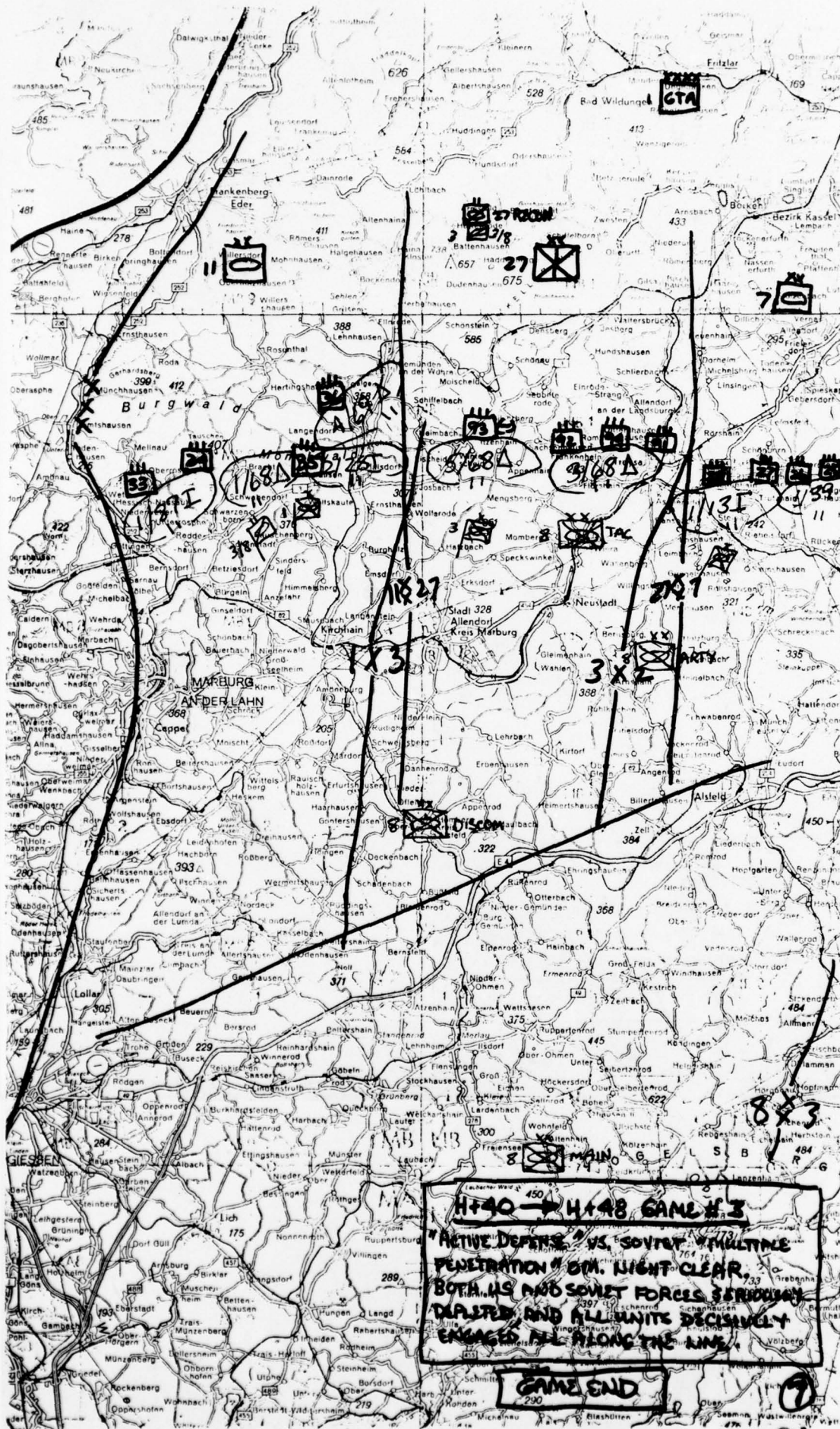


OVERLAY SHOWS THE COMBAT DIFFERENTIAL COMPARISONS NUMBERS ARE CALCULATED BASED UPON THE CURRENT MISSION AND ACTIVITY OF EACH UNIT. US UNITS ARE ALL DEFENSIVE CALCULATIONS; SOVIET UNITS ARE OFFENSIVE CALCULATIONS.

MB	NB
MA	NA

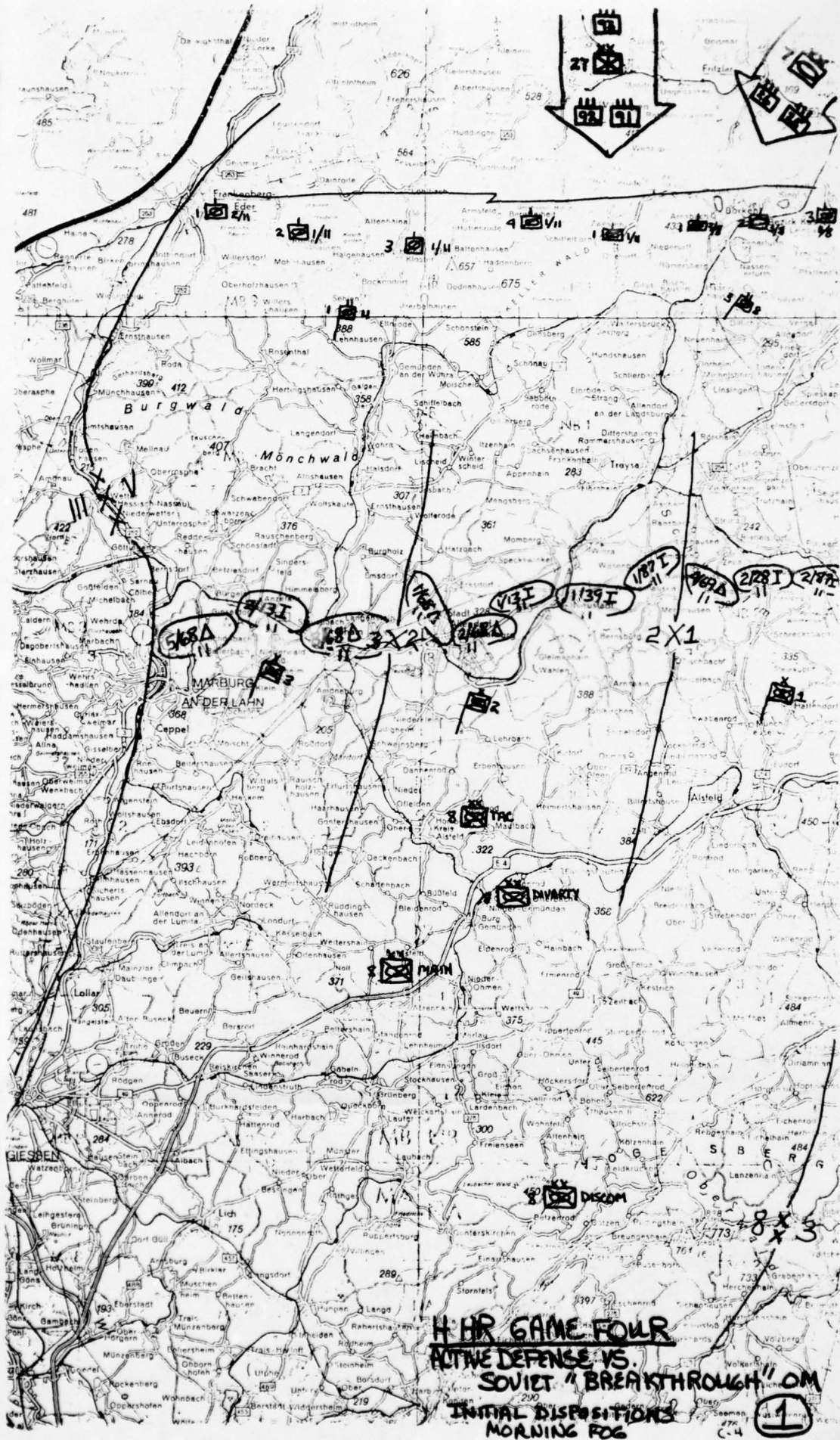
GAME 3, H+48
ACTIVE DEFENSE
VS
MULTIPLE PENETRATION
USE W/GAME HISTORY MAP # 7

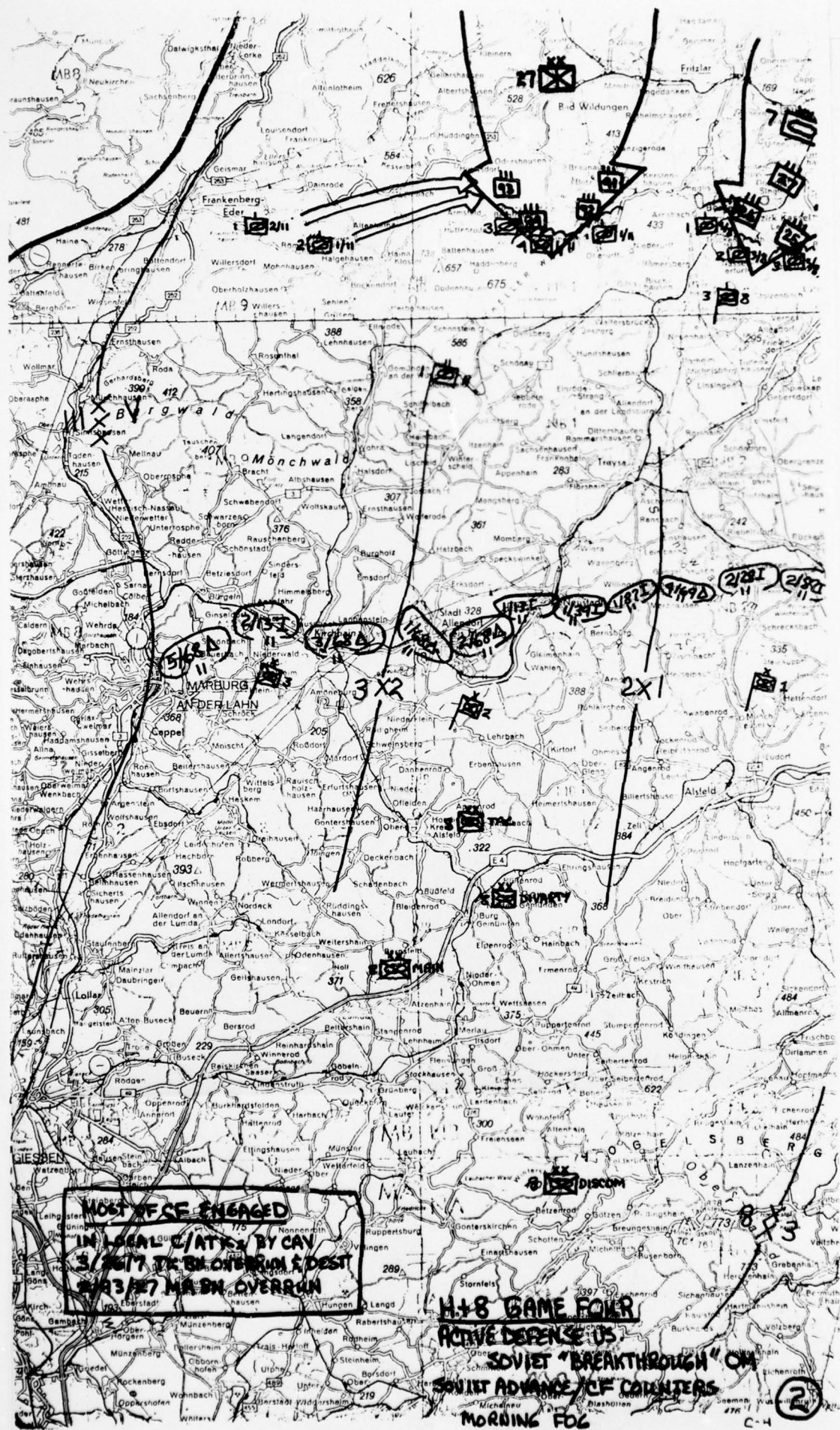
6A
C-3

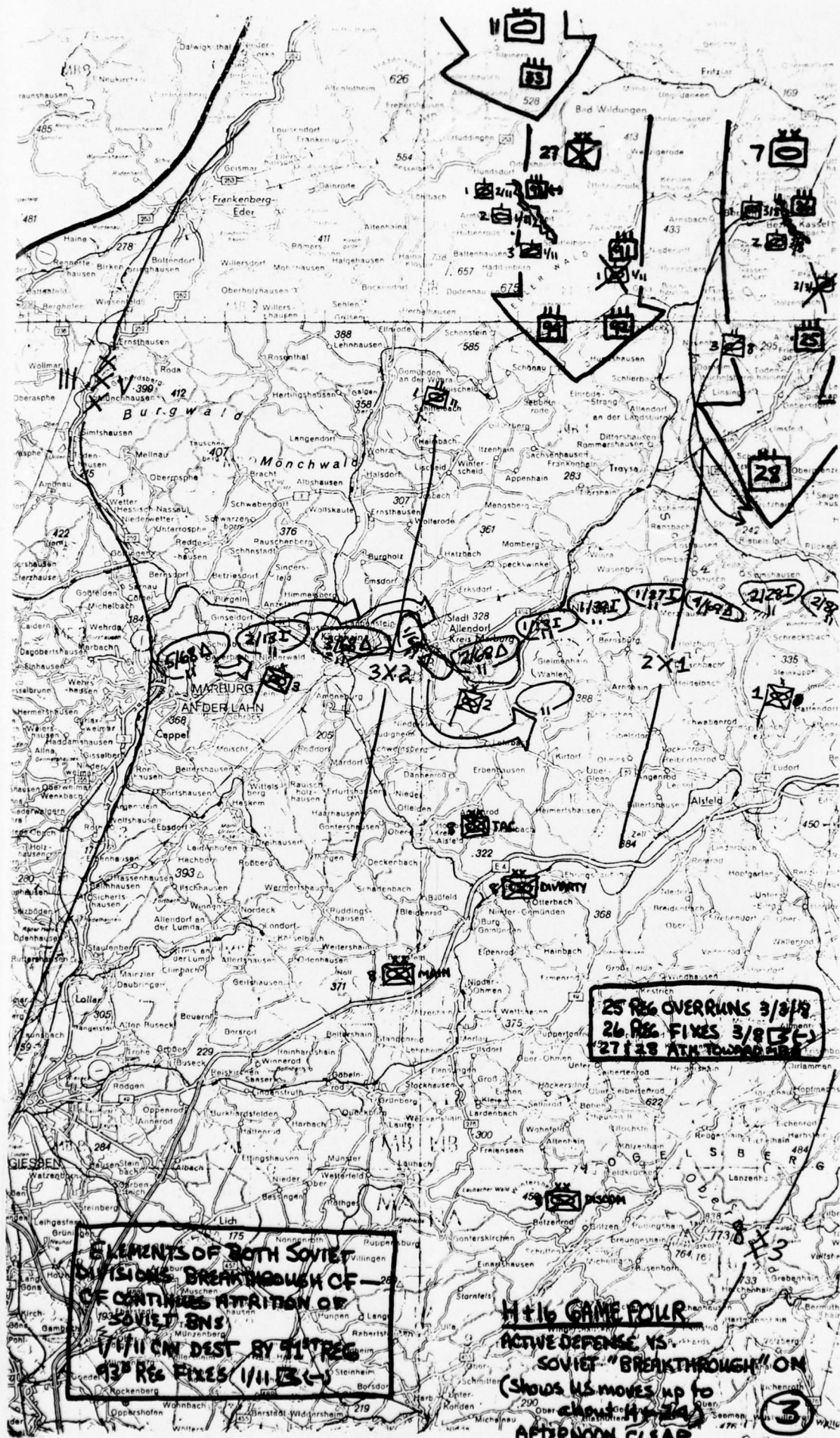


ANNEX C-4

GAME 4





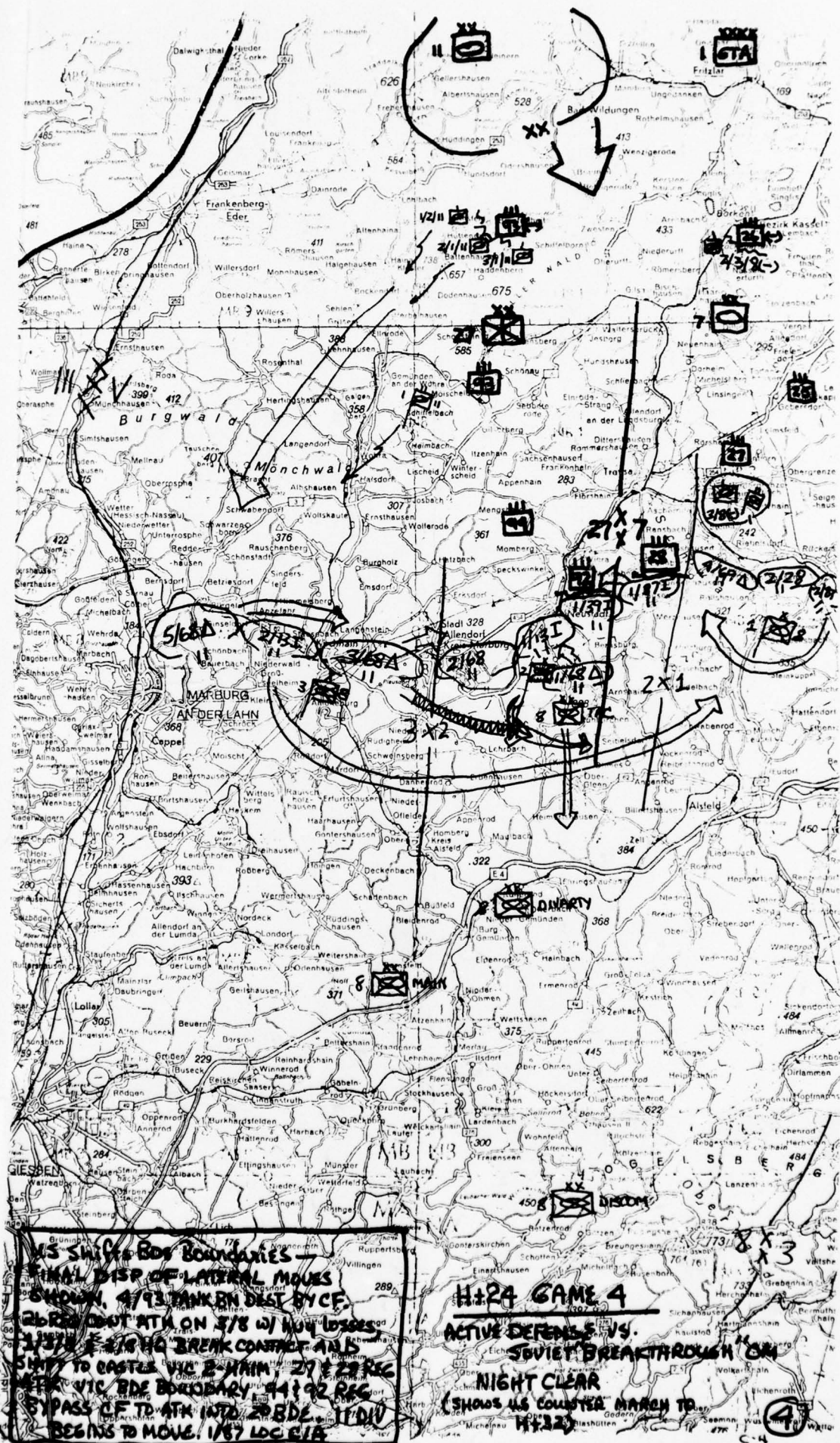


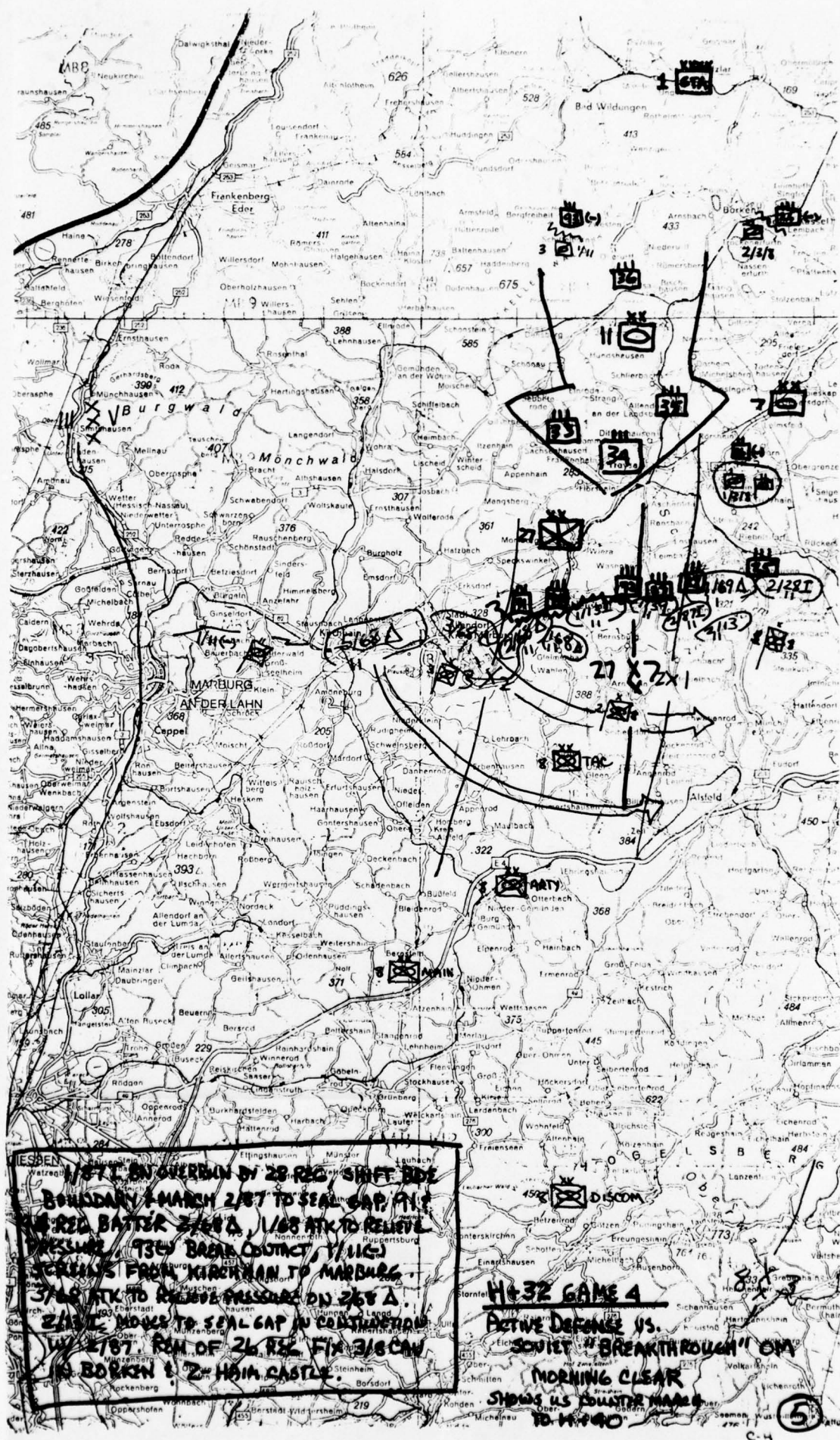
ELEMENTS OF BOTH SOVIET
DIVISIONS BREAKTHROUGH OF
OF CONTINUOUS RETRACTION OF
SOVIET BNS
1/11/11 CN DEST BY 91 REG
13 REG FIXES 1/11/13 (-)

25 REG OVERRUNS 3/3/13
26 REG FIXES 3/8/13 (-)
27 REG AT TOWARD 13

H+16 GAME FOUR
ACTIVE DEFENSE VS.
SOVIET "BREAKTHROUGH" ON
(SHOWS US MOVES UP TO
200
AFTERNOON CLEAR

3





1/27 L ON OVERBUN BY 28 REG SHIFTS BDE
BOUNDARY 1 MARCH 2/87 TO SEAL GAP AT
RED BATTER 2/87 A, 1/68 ATK TO REVEAL
PRESSURE 734V BARR. COMCT, 1/116J
SCRAMBLES FROM KIRCHHAUS TO MARBURG
3748 ATK TO REVEAL PRESSURE ON 2/87 A.
2/87E MOVER TO SEAL GAP IN CONTINUATION
BY 2/87. REM OF 26 REG FIX 3/8 CAN
B BORKEN & 2- HAIN CASTLE

H-32 GAME 4
ACTIVE DEFENSE VS.
SOVIET "BREAKTHROUGH" ON
MORNING CLEAR
SHOWS US COUNTER MARCH
TO H-40

93R(0)

3/1/11(62)

26R(117)

2/4/8(12)



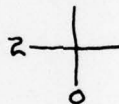
OVERLAY SHOWS THE
COMBAT DIFFERENTIAL
COMPARISON; NUMBERS
ARE CALCULATED BASED
UPON THE CURRENT
MISSION AND ACTIVITY
OF EACH UNIT. US
UNITS ARE ALL DEFEN-
SIVE CALCULATIONS;
SOVIET UNITS ARE
OFFENSIVE CALCULATIONS.

1/3/8(30)

2/1/11(24)

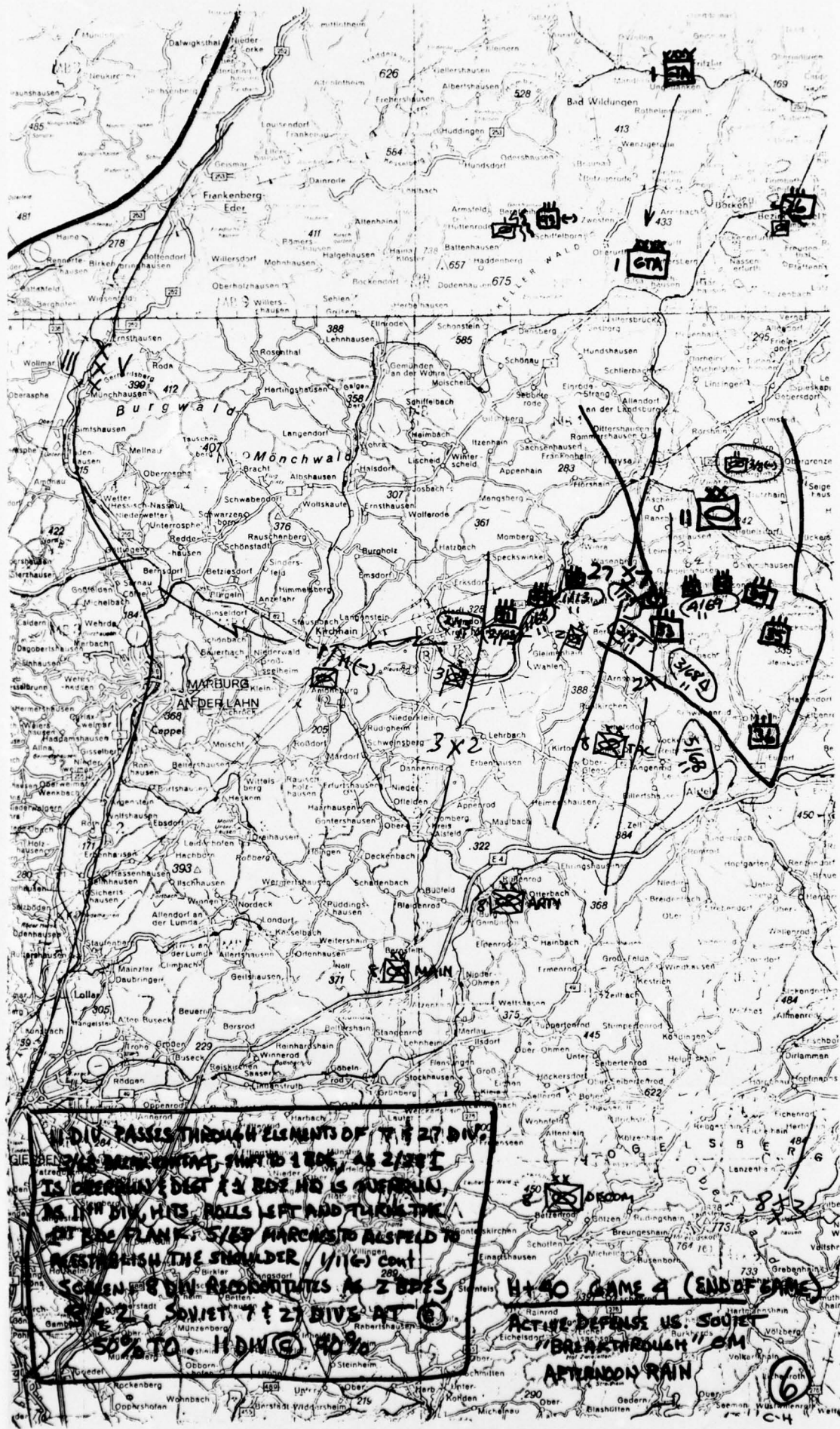
1/2/11(30)

92R(2) 27R(0) 25R(24)
94R(0) 1/12(48) 1/37(51) 4/6(34) 3/4(47)
2/13(42) 2/17(41) 1/6(33) 7/1(0) 33R(19) 35R(39)
2/6(57) 2/8(40) 3/6(30)
5/8(33)
1/11(0) 36R(18)



GAME 4, H+40
ACTIVE DEFENSE
VS
BREAKTHROUGH
USE W/GAME HISTORY MAP # 6

C-4 (SA)



APPENDIX D

NWC STUDENT/SENIOR COMMANDER SURVEYS

PART I

NWC STUDENT SURVEY

ANNEX D-1

PRELIMINARY NWC STUDENT SURVEY

TABLE D-1

NWC STUDENT SURVEY RESPONDENTS

<u>NAME</u>	<u>GRADE</u>	<u>BRANCH</u>	<u>TACTICAL DOCTRINE GROUP</u>
BAUSCHSPIES	LTC	INFANTRY	BASE CASE
BOYLAND	LTC	INFANTRY	ALTERNATIVE
CATO	YMAJ	ARTILLERY	ALTERNATIVE
CONNOLLY	MAJ	INFANTRY	ALTERNATIVE
FORBES	MAJ	INFANTRY	BASE CASE
HANDY	LTC	ARMOR	BASE CASE
HARVEY	LTC	ARMOR	ALTERNATIVE
HOCK	MAJ	INFANTRY	ALTERNATIVE
MCCANN	MAJ	ARMOR	ALTERNATIVE
MEDLOCK	MAJ	INFANTRY	BASE CASE
MEIER	MAJ	ARTILLERY	BASE CASE
YARBOROUGH	LTC	ARMOR	BASE CASE

PRELIMINARY SURVEY

WAR GAME PLAYERS

D-1-2

SURVEY--PART I

1. Introduction

a. In this part of the survey you will be asked to specify preference values for the tasks which must be performed by a "heavy" division during combat. Your judgment will serve to measure the importance of each of the tasks and, when combined with Part II of the survey, will be used to determine the performance capability of the alternatives.

b. Each of the tasks is defined by a general definition to aid you in conceptualizing each particular capability.

c. In your deliberation you should consider the battlefield setting as some combination of many possible combinations of the range of conditions, provided immediately below, in which the division may be required to accomplish its missions and successfully perform its tasks. You must decide which conditions apply and with what frequency the division will encounter these conditions.

2. Battlefield Setting. The "heavy" division will be expected to accomplish its missions and successfully perform its tasks under a variety of conditions. You should consider:

a. the type and duration of the war--nuclear, conventional, or chemical/biological--which may be of short or long duration;

b. natural environment--time of year; time of day; terrain influences such as rural or urban setting, soil trafficability, and route availability; visibility and weather;

c. situation--1986 timeframe; types of missions; dimensions of activity, both lateral and in depth; fluidity of the action; and other factors, such as CAS, EW, and OPSEC. Consider the training state, personnel state, and materiel readiness of the division; current TO&E organization changed, if necessary, to include the addition of 1986 weapon systems (see Appendix 2).

d. threat--considerations include the type of unit which you are likely to encounter along with the state of its training, personnel, materiel readiness, modernization. Include in your considerations the density of the targets which you would expect to face and the missions/tasks of those targets.

3. Division's Critical Tasks

a. Target Servicing - The capability of the division to acquire, allure, engage, and neutralize or destroy threat firepower systems at the tactical level of duels and engagements.* Includes the employment and coordination of supporting weapons such as mortars, field artillery, and close-air systems, as well as countermobility and electronic warfare assets which enhance target servicing efforts.

b. Interdiction - The capability of the division to destroy, delay, or neutralize threat CJ, CS, CSS, and firepower systems encountered as a result of maneuver conducted at the operational level of a battle* or attack by long range weapons systems.

c. Counterfire - The capability to suppress, neutralize, or destroy threat indirect fire systems. Includes all activities to direct such attacks.

d. Air Defense - The capability to detect, acquire, identify, allure, engage, and destroy enemy aircraft entering or overflying the divisional area of operations. Includes all measures designed to nullify or reduce the effectiveness of an attack by enemy air assets, be they high-performance fixed wing aircraft, helicopters, or cruise missiles.

e. Logistical Support - The capability to provide those critical supplies and services necessary to support the divisional elements committed to target servicing, interdiction, counterfire, and air defense tasks.

* 1. Duels - combat between elements and units of combat forces, from individual weapon versus individual weapon through company and battalion level. The essence of duels is firepower and is dominated by terrain. Favorable attrition through combat actions is the principle means of success.

* 2. Engagements - the management of duels in time, space, and proper sequence to establish conditions for further favorable action. Engagements are associated with battalions and brigades and are terrain and maneuver dominant. Engagements are a means toward a higher end.

* 3. Battles - the management of engagements in time, space, and proper sequence to implement the selected defeat mechanism against the enemy. Battles are associated with divisions and corps and are dominated by concerns of maneuver.

f. C³/EW - The capability to receive, coordinate, and disseminate orders, requests, combat information, and intelligence in an ECM environment.

g. Surveillance/Fusion - The capability to locate, classify, follow, project, and provide information on interdiction targets.

h. Force Mobility - The capability to move on the battlefield for the purpose of concentrating or relocating combat power. Successful movement includes preparation, control, support, and all actual air and ground movement except those activities directed toward interdiction.

i. Reconstitution - The capability to regenerate the force by CSS actions and provision of materiel required for continuous operations.

WEIGHTING OF THE CRITICAL TASKS

We should like you to apply your professional judgment as a hypothetical 1986 division commander to weight your unit's critical tasks, provided on the previous page. Give more points to those tasks which you judge to be more important. You can apportion a total of 100 points. You need not provide a rationale for your weighting scheme unless you wish to express qualifications concerning your decision. You may place these comments in the remarks section which follows the weighting table.

TASK	POINTS	POSITION (1-9)
TARGET SERVICING	_____	_____
INTERDICTION	_____	_____
COUNTERFIRE	_____	_____
AIR DEFENSE	_____	_____
LOGISTICAL SUPPORT	_____	_____
C ³ /EW	_____	_____
SURVEILLANCE/FUSION	_____	_____
FORCE MOBILITY	_____	_____
RECONSTITUTION	+ _____	_____
	= 100	

REMARKS

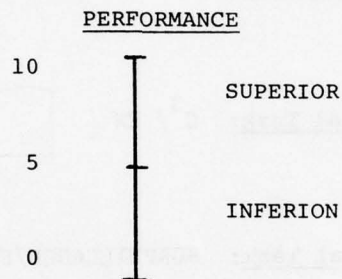
SURVEY--PART II

1. Introduction

Having completed part one of your survey, you are now familiar with the critical tasks which must be performed by a division in combat. You should also be familiar with the tactical alternative which you will be playing--either the firepower based, force destruction doctrine or the maneuver based, force disruption doctrine. In this part of the preliminary survey you must decide how well a heavy division using your tactical doctrine will perform the critical tasks.

2. Specific Instructions and Questions

Assume that your division has been required to perform each critical task many times. Using the scale below, indicate your judgment of the degree to which you would expect the division, on the average, to have performed the critical task using the tactical doctrine which you will play during the game.



Please provide a whole number from the scale in the boxes provided for each task. If you wish to indicate that you would expect the division, on the average, to have performed the task in a superior fashion, select a 6-10 and place that number in the box. You may add qualifying comments as noted.

3. Questions

a. Critical Task: TARGET SERVICING

REMARKS:



b. Critical Task: INTERDICTION



c. Critical Task: COUNTERFIRE

REMARKS:

☐

d. Critical Task: AIR DEFENSE

REMARKS:

☐

e. Critical Task: LOGISTICAL SUPPORT

REMARKS:

☐

f. Critical Task: C³/EW

REMARKS:

☐

g. Critical Task: SURVEILLANCE/FUSION

REMARKS:

☐

h. Critical Task: FORCE MOBILITY

REMARKS:

☐

i. Critical Task: RECONSTITUTION

REMARKS:

☐

ANNEX D-2

FINAL NWC STUDENT SURVEY

17 May 1979

MEMORANDUM FOR WAR GAME PLAYERS

SUBJ: Post Game Survey

1. You have recently reviewed and used in a war game a tactical doctrine which is either the "base case" or "alternative" tactical doctrine at issue in our study. The list at Enclosure (1) identifies which doctrine you reviewed.
2. Attached as Enclosure (2) is the tactical doctrine which you have not previously reviewed. Please study it and complete the survey attached as Enclosure (3). (Return it to the team NLT May 1979. A strict compliance with this deadline is critical to the completion of the study.) Please pay careful attention to the definitions of the heavy division's critical tasks--they are not the same definitions used in the war game--and, by means of the survey, compare the two tactical doctrines which you have been presented.
3. Attached as Enclosure (4) is a map/time history of the war game which you played.

BASE CASE

YARBOROUGH

FORBES

MEIER

BAUCHSPIES

MEDLOCK

HANDY

ALTERNATIVE

CONNOLLY

HARVEY

HOCK

CATO

MCCANN

BOYLAN

Enclosure (1)

D-2-2

SURVEY--PART I

1. Introduction

a. In this part of the survey you will be asked to specify preference values for the tasks which must be performed by a "heavy" division during combat. Your judgment will serve to measure the importance of each of the tasks and, when combined with Part II of the survey, will be used to determine the performance capability of the alternatives.

b. Each of the tasks is defined by a general definition to aid you in conceptualizing each particular capability.

c. In your deliberation you should consider the battlefield setting as some combination of many possible combinations of the range of conditions, provided immediately below, in which the division may be required to accomplish its missions and successfully perform its tasks. You must decide which conditions apply and with what frequency the division will encounter these conditions.

2. Battlefield Setting. The "heavy" division will be expected to accomplish its missions and successfully perform its tasks under a variety of conditions. You should consider:

a. the type and duration of the war--nuclear, conventional, or chemical/biological--which may be of short or long duration;

b. natural environment--time of year; time of day; terrain influences such as rural or urban setting, soil trafficability, and route availability; visibility and weather;

c. situation--1986 timeframe; types of missions; dimensions of activity, both lateral and in depth; fluidity of the action; and other factors, such as CAS, EW, and OPSEC. Consider the training state, personnel state, and materiel readiness of the division; current TO&E organization changed, if necessary, to include the addition of 1986 weapon systems (see Appendix 2).

d. threat--considerations include the type of unit which you are likely to encounter along with the state of its training, personnel, materiel readiness, modernization. Include in your considerations the density of the targets which you would expect to face and the missions/tasks of those targets.

3. Division's Critical Tasks

a. Target Servicing - The capability of the division to acquire, allure, engage, and neutralize or destroy threat firepower systems at the tactical level of duels and engagements.* Includes the employment and coordination of supporting weapons such as mortars, field artillery, and close-air systems, as well as countermobility and electronic warfare assets which enhance target servicing efforts.

b. Interdiction - The capability of the division to destroy, delay, or neutralize threat C3, CS, CSS, and firepower systems encountered as a result of maneuver conducted at the operational level of a battle* or attack by long range weapons systems.

c. Counterfire - The capability to suppress, neutralize, or destroy threat indirect fire systems. Includes all activities to direct such attacks.

d. Air Defense - The capability to detect, acquire, identify, allure, engage, and destroy enemy aircraft entering or overflying the divisional area of operations. Includes all measures designed to nullify or reduce the effectiveness of an attack by enemy air assets, be they high-performance fixed wing aircraft, helicopters, or cruise missiles.

e. Logistical Support - The capability to provide those critical supplies and services necessary to support the divisional elements committed to target servicing, interdiction, counterfire, and air defense tasks.

* 1. Duels - combat between elements and units of combat forces, from individual weapon versus individual weapon through company and battalion level. The essence of duels is firepower and is dominated by terrain. Favorable attrition through combat actions is the principle means of success.

* 2. Engagements - the management of duels in time, space, and proper sequence to establish conditions for further favorable action. Engagements are associated with battalions and brigades and are terrain and maneuver dominant. Engagements are a means toward a higher end.

* 3. Battles - the management of engagements in time, space, and proper sequence to implement the selected defeat mechanism against the enemy. Battles are associated with divisions and corps and are dominated by concerns of maneuver.

f. C³/EW - The capability to receive, coordinate, and disseminate orders, requests, combat information, and intelligence in an ECM environment.

g. Surveillance/Fusion - The capability to locate, classify, follow, project, and provide information on interdiction targets.

h. Force Mobility - The capability to move on the battlefield for the purpose of concentrating or relocating combat power. Successful movement includes preparation, control, support, and all actual air and ground movement except those activities directed toward interdiction.

i. Reconstitution - The capability to regenerate the force by CSS actions and provision of materiel required for continuous operations.

WEIGHTING OF THE CRITICAL TASKS

We should like you to apply your professional judgment as a hypothetical 1986 division commander to weight your unit's critical tasks, provided on the previous page. Give more points to those tasks which you judge to be more important. You can apportion a total of 100 points. You need not provide a rationale for your weighting scheme unless you wish to express qualifications concerning your decision. You may place these comments in the remarks section which follows the weighting table.

TASK	POINTS	POSITION (1-9)
TARGET SERVICING	_____	_____
INTERDICTION	_____	_____
COUNTERFIRE	_____	_____
AIR DEFENSE	_____	_____
LOGISTICAL SUPPORT	_____	_____
C ³ /EW	_____	_____
SURVEILLANCE/FUSION	_____	_____
FORCE MOBILITY	_____	_____
RECONSTITUTION	+ _____	_____
	= 100	

REMARKS

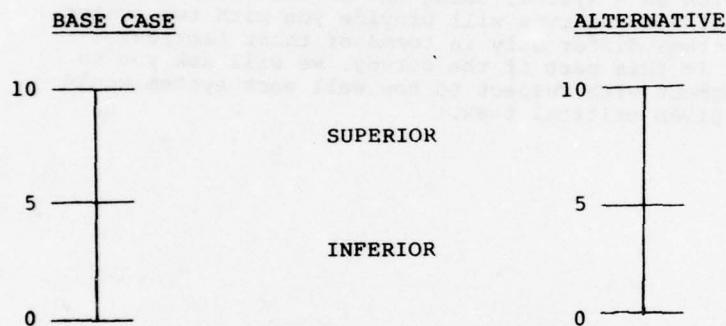
SURVEY--PART II

1. Introduction

Having completed part one of the survey, you are now familiar with the critical tasks and the tactical alternatives--the firepower based, force destruction base case and the maneuver based, force disruption alternative. If you now think of the battlefield in functional terms, with your division as a system, using one or the other of the two tactical alternatives will provide you with two systems. The two systems differ only in terms of their tactical doctrine. In this part of the survey, we will ask you to make a judgment with respect to how well each system would perform a given critical task.

2. Specific Instructions and Questions

Assume that your division has been required to perform each critical task many times. On the scale below indicate your judgment of the degree to which you would expect the division, on the average, to have performed the critical tasks using, alternatively, the base case tactical doctrine and the alternative tactical doctrine.



Please provide a whole number from each scale in the boxes provided for each task in the following list of critical tasks. If you wish to indicate that you would expect the division, on the average, to have performed a task significantly better or worse because of the tactical doctrines, select numbers for each alternative that differs by at least two whole numbers.

EXAMPLE:

Critical Task: TARGET SERVICING

Base Case

7

Alternative

8

This answer means that you would expect the alternative division, on the average, to have performed the target servicing task in a superior manner to only a slightly greater degree than the base case; and that you would not expect that either division would have performed at the minimum acceptable degree (5) or the maximum possible degree (10).

3. Questions

a. Critical Task: TARGET SERVICING



Base Case



Alternative

REMARKS:

b. Critical Task: INTERDICTION



Base Case



Alternative

REMARKS:

c. Critical Task: COUNTERFIRE



Base Case



Alternative

REMARKS:

d. Critical Task: AIR DEFENSE



Base Case



Alternative

REMARKS:

e. Critical Task: LOGISTICAL SUPPORT



Base Case



Alternative

REMARKS:

f. Critical Task: C³/EW



Base Case



Alternative

REMARKS:

g. Critical Task: SURVEILLANCE/FUSION



Base Case



Alternative

REMARKS:

h. Critical Task: FORCE MOBILITY



Base Case



Alternative

REMARKS:

i. Critical Task: RECONSTITUTION



Base Case



Alternative

REMARKS:

SURVEY--PART III

Given your understanding of the base case and the tactical doctrine provided by the Division Mobile Operations Battle Book, do you see two clear alternatives presented? Making your comments specific will assist us in the final preparation of our study. We welcome any comments directed toward the refining of the mobile operations concept.

ADDITIONAL REMARKS:

THE FOLLOWING INFORMATION WAS OBTAINED FROM THE RECORDS OF THE BUREAU OF THE ARMY AND NAVAL RECORDS ADMINISTRATION, WASHINGTON, D. C. ON 10/10/68. THE INFORMATION WAS OBTAINED FROM THE RECORDS OF THE BUREAU OF THE ARMY AND NAVAL RECORDS ADMINISTRATION, WASHINGTON, D. C. ON 10/10/68. THE INFORMATION WAS OBTAINED FROM THE RECORDS OF THE BUREAU OF THE ARMY AND NAVAL RECORDS ADMINISTRATION, WASHINGTON, D. C. ON 10/10/68.

TABLE D-2

CRITICAL TASK WEIGHTINGS - (NWC STUDENTS) BY PLAYER GROUPS*

<u>CRITICAL TASK</u>	<u>WEIGHT</u>			
	<u>PRE GAME</u>		<u>FINAL</u>	
	<u>BASE CASE</u>	<u>ALTERNATIVE</u>	<u>BASE CASE</u>	<u>ALTERNATIVE</u>
TARGET SERVICING	.1492	.1467	.1617	.1000
INTERDICTION	.0925	.0800	.0817	.0917
COUNTERFIRE	.1083	.0833	.0783	.0833
AIR DEFENSE	.0758	.0750	.0750	.0683
LOGISTICAL SUPPORT	.1042	.1400	.0950	.1367
C ³ /EW	.1567	.1500	.1317	.1350
SURVEILLANCE/FUSION	.0983	.0717	.0750	.1083
FORCE MOBILITY	.1442	.1650	.1917	.1767
RECONSTITUTION	.0675	.0883	.1017	.0950

* NOTE: By group which played specific doctrine
in war game

TABLE D-3

CRITICAL TASK PERFORMANCE JUDGMENT - (NWC STUDENTS)
BY PLAYER GROUPS*

<u>CRITICAL TASK</u>	<u>PERFORMANCE JUDGMENTS</u>			
	<u>PRE GAME</u>		<u>FINAL</u>	
	<u>BASE CASE</u>	<u>ALTERNATIVE</u>	<u>BASE CASE</u>	<u>ALTERNATIVE</u>
TARGET SERVICING	7.67	8.00	7.33	7.00
INTERDICTION	4.67	6.17	5.17	7.17
COUNTERFIRE	6.33	6.50	5.67	5.83
AIR DEFENSE	4.00	6.33	4.67	5.33
LOGISTICAL SUPPORT	5.17	6.67	7.17	5.83
C ³ /EW	6.17	6.33	6.50	7.67
SURVEILLANCE/FUSION	5.00	5.50	6.00	7.50
FORCE MOBILITY	6.33	6.17	7.67	8.50
RECONSTITUTION	5.50	5.83	6.00	6.33

* NOTE: By group which played specific doctrine
in war game

TABLE D-4

DIVISION PERFORMANCE - CRITERION OF CHOICE (NWC STUDENTS)
BY PLAYER GROUP*

<u>DIVISION PERFORMANCE</u>			
<u>PRE GAME</u>		<u>FINAL</u>	
<u>BASE CASE</u>	<u>ALTERNATIVE</u>	<u>BASE CASE</u>	<u>ALTERNATIVE</u>
5.8462	6.0308	6.4698	6.9553

*Note: By group which played specific doctrine in war game.

TABLE D-5

CRITICAL TASK WEIGHTINGS - NWC STUDENTS

<u>CRITICAL TASK</u>	<u>WEIGHTS</u>	
	<u>PRE GAME</u>	<u>FINAL</u>
TARGET SERVICING	.1479	.1308
INTERDICTION	.08625	.0867
COUNTERFIRE	.0958	.0833
AIR DEFENSE	.0754	.0717
LOGISTICAL SUPPORT	.1221	.1158
C ³ /EW	.1533	.1333
SURVEILLANCE/FUSION	.0850	.0917
FORCE MOBILITY	.1546	.1842
RECONSTITUTION	.0779	.0983

TABLE D-6

CRITICAL TASK PERFORMANCE JUDGMENT -

NWC STUDENTS

<u>CRITICAL TASK</u>	<u>FINAL PERFORMANCE JUDGMENTS</u>	
	<u>BASE CASE</u>	<u>ALTERNATIVE</u>
TARGETING SERVICING	7.25	7.00
INTERDICTION	6.33	7.25
COUNTERFIRE	6.75	6.25
AIR DEFENSE	6.33	5.83
LOGISTICAL SUPPORT	6.67	6.08
C ³ /EW	6.50	7.08
SURVEILLANCE/FUSION	5.75	6.75
FORCE MOBILITY	6.50	8.17
RECONSTITUTION	6.08	6.00

TABLE D-7

DIVISION PERFORMANCE - CRITERION OF CHOICE

NWC STUDENTS

DIVISION PERFORMANCE

<u>BASE CASE</u>	<u>ALTERNATIVE</u>
6.4743	6.8444

TABLE D-8

CLEAR ALTERNATIVE QUESTION

<u>BASE CASE GROUP</u>	<u>ALTERNATIVE GROUP</u>	<u>OVERALL</u>
5 - YES	4 - YES	9 - YES
1 - NO	2 - NO	3 - NO

TABLE D-9

DATA ENTRY SHEETS - WAR COLLEGE STUDENT SURVEYS

CRITICAL TASK WEIGHTINGS (PRE/POST GAME)

RESPONDENTS	1		2		3		4		5		6		7		8		9	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
1	12	10	12	11	11	11	10	10	11	11	10	12	12	11	11	12	11	12
2	15	1	2	7	3	2	2	5	20	20	20	20	3	10	20	20	15	15
3	12	14	9	8	8	5	8	11	16	15	11	13	9	10	16	17	11	7
4	12	13	8	10	10	8	6	8	13	12	20	15	9	15	15	10	7	9
5	13	17	6	8	9	6	8	10	12	6	19	12	7	4	16	18	10	14
6	9.5	20	12.5	5	15	5	12.5	10	4.5	5	15	15	15	5	9.5	20	4.5	15
7	18	13	8	10	10	10	10	10	8	10	14	13	7	10	18	14	7	10
8	20	10	15	10	10	20	10	0	15	10	5	0	5	10	15	30	5	10
9	11	9	6	10	9	8	9	7	12	15	20	20	10	10	15	15	8	6
10	20	20	15	10	15	10	5	5	5	5	10	10	15	15	10	20	5	5
11	25	20	5	5	10	10	5	5	10	10	20	20	10	5	10	15	5	10
12	10	10	5	10	5	5	5	5	20	20	20	10	0	5	30	30	5	5
Group 1	1492	1617	925	817	1083	783	758	750	1042	950	1567	1317	983	750	1442	1317	675	1017
\bar{x}	622	492	442	264	382	279	317	274	564	575	476	382	571	446	800	615	292	436
s	1467	1000	800	917	833	883	750	683	1400	1367	1500	1350	717	1083	1650	1767	883	950
Group 2	367	482	424	133	273	614	308	397	405	383	620	734	271	204	207	689	360	315
\bar{x}	1497	1308	8625	867	958	833	754	717	1221	1158	1533	1333	850	917	1546	1842	779	983
s	487	565	418	206	342	458	298	327	504	514	528	558	448	374	568	627	331	364

TABLE D-9 (CONT)
CRITICAL TASK EVALUATIONS (PRE/POST/ALTERNATIVE)

CLEAR ALTERNATIVE QUESTION RESPONSE	1		2		3		4		5		6		7		8		9	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
YES	8	7	6	7	4	8	4	7	5	7	4	8	7	8	8	8	8	8
YES	/	10	/	8	/	8	/	8	/	8	/	8	/	7	/	10	/	8
NO	/	6	/	6	/	6	/	7	/	5	/	5	/	6	/	6	/	6
YES	/	7	4	7	3	6	4	7	6	7	5	6	5	6	7	8	6	6
YES	/	8	/	5	/	7	/	8	/	7	/	8	/	6	/	6	/	8
YES	7	6	7	8	5	7	3	6	3	5	4	6	6	8	5	8	5	6
YES	7	8	7	7	7	8	7	8	7	7	7	6	7	5	7	6	7	6
NO	/	9	/	9	/	8	/	8	/	7	/	8	/	6	/	9	/	7
NO	6	7	6	5	5	5	4	6	4	7	4	7	6	5	6	5	5	7
YES	/	4	/	7	/	7	/	6	/	5	/	5	/	8	/	7	/	4
YES	/	7	/	6	/	6	/	5	/	6	/	6	/	6	/	6	/	6
NO	/	5	/	8	/	8	/	5	/	6	/	5	/	5	/	5	/	5
YES	9	7	9	4	9	5	5	5	9	5	4	8	4	7	8	4	4	6
YES	/	7	/	6	/	7	/	/	/	8	/	7	/	6	/	8	/	5
YES	8	7	4	8	6	7	8	5	9	6	10	9	8	8	9	8	7	6
YES	9	9	4	5	7	6	5	5	6	5	7	6	4	5	7	4	4	4
YES	/	7	/	8	/	6	/	/	/	5	/	5	/	5	/	7	/	3
YES	8	7	3	6	7	6	4	5	6	6	7	5	6	5	6	8	6	5
	/	7	/	6	/	6	/	5	/	6	/	5	/	5	/	8	/	5

TABLE D-9 (CONT)

	<u>1</u>		<u>2</u>		<u>3</u>		<u>4</u>		<u>5</u>		<u>6</u>		<u>7</u>		<u>8</u>		<u>9</u>	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
YES	8	6	2	6	8	6	0	7	3	8	8	6	0	5	4	6	3	5
	/	8	/	7	/	6	/	7	/	8	/	9	/	7	/	8	/	8
YES 5-1	7.67	7.33	4.67	6.17	6.33	6.50	4.00	6.33	5.17	6.67	6.17	6.33	5.00	5.50	6.33	6.17	5.50	5.83
	1.03	1.03	1.97	1.17	1.51	1.22	2.28	1.21	1.47	1.03	1.72	1.03	2.69	1.22	1.36	1.60	1.87	1.47
YES 4-2	8.00	7.00	5.17	7.17	5.67	5.83	4.67	5.33	7.17	5.83	6.50	7.67	6.00	7.50	7.67	8.50	6.00	6.33
	1.26	0.63	2.48	2.04	1.97	1.17	1.86	1.03	2.64	0.75	2.81	1.63	2.61	1.52	1.75	0.84	2.28	0.82
YES 9-3	7.25	6.33	6.33	6.33	6.75	6.75	6.33	6.33	6.67	6.67	6.50	6.50	5.75	5.75	6.50	6.50	6.08	6.08
BASE CASE	1.36	1.36	1.15	1.15	1.06	1.06	1.30	1.30	1.07	1.07	1.17	1.17	1.17	0.97	1.17	1.68	1.38	1.38
ALTER-	7.00	7.00	7.25	7.25	6.25	6.25	5.83	5.83	6.08	6.08	7.08	7.08	6.75	6.75	8.17	8.17	6.00	6.00
NATIVE	1.21	1.21	1.54	1.54	1.06	1.06	1.19	1.19	1.00	1.00	1.73	1.73	1.54	1.54	0.83	0.83	1.48	1.48

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ANNEX D-3

NWC STUDENT PREGAME COMMENTS

ANNEX D-3

NWC STUDENT PREGAME COMMENTS

1. Target Servicing

I feel the requirement will be to hit the enemy as far forward as possible. Target servicing requires, however, a more effectively trained FSE than I have observed; greater fire discipline.

2. Interdiction

a. I feel the requirement will be to hit the enemy as far out as possible. Capability is highly force dependent. I would place great reliance on Air Force.

b. We will have an inferior capability and inferior tools.

3. Counterfire

a. Counterfire must be totally responsible. We need better training. Under almost ideal conditions my experience is that we are not very good.

b. We will have inferior tools (radar); this task tends to conflict with target servicing.

4. Air Defense

a. Air defense will be extremely difficult to control. We must place great reliance on AF. I don't feel our Army has fully come to grips with this problem.

b. We will have inferior tools even with DIDAD.

c. Air defense should be counted almost equal to counterfire as enemy air is a "form" of artillery.

d. We don't and won't have enough ammo to handle the job in Europe.

5. Logistical Support

We must support well forward. We are getting better but there is still too much division between supporting and supported units.

6. C³/EW

a. Unless there is major breakthrough, we can't count on our ability to maintain C³/EW. This task needs work. We talk too much and don't practice enough "real world" situations.

b. Our equipment is fair to poor; our performance will depend on intensive training.

7. Surveillance/Fusion

a. I feel the requirement will be to hit the enemy as far out as possible. This requires information and target servicing. When the "total force" participates, feel we can do the job well.

b. Surveillance/Fusion should be also defined and utilized as providing intelligence on movement of enemy units w/in sector which can influence outcome of battle/engagement....

c. My view is that division can't do it. CEWI battalion won't cut it.

8. Force Mobility

Mobility is essential after initial engagement. We should be in good shape if we get the IFV and work a combined infantry/armor force.

9. Reconstitution

Essential after initial engagement. It like everything else is training dependent. We have the capability to do well, particularly with newer equipment.

10. General

The tasks can be viewed for importance from the perspective of being required to offset a Soviet initiated, high volume attack or from the perspective of needs given the opportunity to cease reacting and seize initiative.

ANNEX D-4

NWC STUDENT POST GAME COMMENTS

ANNEX D-4

NWC STUDENT POST GAME COMMENTS

1. Target Servicing

a. The base case is superior based on familiarity with terrain and target acquisition.

b. I have the feel that Bn's maneuvered by division [HQ] will be like shovels and sandbags against a volcano.

2. Interdiction

a. The alternative is superior. It is able to develop more targets faster since enemy is caused to respond to friendly initiative and has less control over what he can/must do.

b. Intelligence comes from the bottom up - in terms of actual collection and the momentum of command attention and action - this should cause the alternative to be superior in this task.

3. Counterfire

The base case is superior. Movement differentials and ability to preplan mark the difference.

4. Air Defense

a. The base case is superior. Movement differentials and ability to preplan mark the difference.

b. The alternative will provide improved acquisition; however spread of AD weapons plus C² problems may degrade this capability.

5. Logistical Support

- a. The alternative is inferior. I feel resupply may be more difficult to units on thrust line.
- b. Caches may assist in base case. Also, the alternative is less able to be forecast in terms of requirements.
- c. The tighter organization of the battlefield at division level and below, need not necessarily eliminate maneuver - although maneuver may be more conservative and/or directed from Corps level or on a Division/Brigade basis with a tight string to Corps. The result of this is a superior capability of the base case to accomplish this task.

6. C³/EW

- a. Having to respond to enemy initiatives degrades base case capabilities.
- b. This function is critical in either alternative. The base case won't work w/o the ability to communicate.

7. Surveillance/Fusion

- a. The alternative tends to force enemy unprogrammed response which will assist in target development.
- b. Intelligence comes from the bottom up - in terms of actual collection and the momentum of command attention and action - this should cause the alternative to be superior in this task.

8. Force Mobility

- a. I see no difference in performance although the alternative presents more stringent requirements.

b. The philosophy of the alternative will make it superior in this task. It must be better established that division direction of battalion's maneuver can hold and move against probable type/amount of every possible force likely to be confronted - for more than one battle.

9. Reconstitution

Base case requires a reconstitution for any significant success.

10. General

a. The alternative is excellent and timely.

b. Critical tasks relate not to doctrine but capability of unit organization/equipment. To find a difference [in terms of the tasks] one would have to change resources.

c. The alternative is not an "alternative" but a technique that a commander could use to fight his battle. One should not attempt to follow a doctrine but should rather follow a philosophy of winning by any means/tactics that are available to the commander.

d. Each tactic has a place which is appropriate as a response to an enemy offensive. Certainly the enemy tactic employed, breakthrough versus broadfront and the level of combat, nuclear versus conventional, must be considered. For example, it might not be prudent, to employ the alternative tactic in a nuclear war nor possibly against breakthrough tactics.

e. Both are viable alternatives and should be used as needed under specific threat being posed. Success/failures at the engagement level may allow a shift in the over all battle plan. Doctrine should not specify rigidity but offer alternatives for the Commander that his people are familiar and can operate within.

f. The alternative appears to be based on the reality that the next conflict will be fought while we are considerably outnumbered. The base case appears more appropriate when possessing relatively equivalent forces.

g. The alternative provides opportunity to influence action w/potent forces. It could be dicey and would require disciplined/welltrained troops.

h. Current TO&E's don't have sufficient firepower. While improvements are on the way there is still need for more.

i. Attack helicopters - this weapon is not an answer to everything but the mobility and firepower available are impressive force multipliers. People over dramatize rotary wing (R/W) vulnerability; but in some respects they are no more subject to loss than a tank. People have to face that war is destructive and a lot of tanks and helicopters will be lost.

j. Little substantive difference between the substance of the alternative and what the base case could be. Therefore, I see your effort as a call to the ilan, which you seem

to believe should underlie the prosecution of a successful active defense. In this sense your redefinition of old terms and addition of new serves a valuable purpose. Unfortunately by the organization of the alternative's battle book, this effort also obscures the point noted above which, to me, is of most value. I think the alternative largely deals in Clausewitz's areas of friction and genius and has something important to say. It would be better sold if this was more up front. The two issues I am not satisfied with is that of fighting outnumbered on the scale we expect in Europe and the level of organization at which maneuver should be commanded and why.

k. Battlefield circumstances will most certainly dictate which doctrine the commander must employ. I don't see force destruction as a viable alternative to the exclusion of force mobility. We are simply "outgunned." I do think that a defense predicated on mobility defending key avenues of approach will at least buy time until an effective strategy or counter can be developed.

i. The alternative facilitates command and control and would facilitate reconstitution of force. It would be more favored in the offense than the defense. Mobility would be enhanced, particularly in employment of reserve forces in the offense.

m. Mobility is restored to the battlefield in the alternative. However opportunities are there to lose control of the situation. Operations tend to be more complex. Simple operations tend to be easier to control.

PART II

SENIOR COMMANDER SURVEY

TABLE D-10

SENIOR COMMANDER SURVEY

PRIMARY GROUP RESPONDENTS¹

- 2 - LTG Corps Commanders
- 7 - MG "Heavy" Division Commanders
- 1 - MG Center Commander
- 1 - MG HQDA Staff
- 2 - Brigade Comments

TRADOC GROUP RESPONDENTS²

- 1 - GEN (retired) TRADOC Commander
- 2 - Col. TRADOC Staff

"SPECIAL INTEREST" RESPONDENTS³

- 1 - Civilian Analyst

- Notes:
- ¹ 1 LTG Corps Commander, 3 MG Division Commanders, and 1 Center Commander did not respond (or in time to be included). Of those that responded 1 LTG Corps Commander only addressed the Clear Alternative question and provided comments; and 1 MG division commander only provided questions - this respondent in fact commands a division which is not "heavy." He was the only "non-heavy" division commander queried.
 - ² 1 General, 1 LTG, 1 BG, and 1 Colonel, members of TRADOC HQ elements did not respond (or in time to be included).
 - ³ 1 USMC MG and 2 civilian analysts, queried for "special interest" opinions did not respond (or in time to be included).

ANNEX D-5

SENIOR COMMANDER SURVEY

NAVAL WAR COLLEGE
NEWPORT, RHODE ISLAND
02840

MEMORANDUM FOR SENIOR COMMANDER SURVEY RESPONDENTS

Subj: Survey Introduction

1. The study, which includes this survey, is organized as follows:

a. Part I - Overview: The background, purpose, methodology, assumptions, and constraints.

b. Part II - Description: The 1986 Threat and Environment.

c. Part III - Development and Definition of Contending Tactical Concepts.

(1) Base Case: Aspects of current tactical doctrine which appear to be firepower based and force destruction concepts.

(2) Alternative: Maneuver based and force disruption concept. A synthesis of tactical concepts based upon research of U.S. tactical doctrine, the German Army's HdV 100/100, Israeli tactical doctrine, and the historical antecedents to these doctrines (time constraints precluded the testing of each of these doctrines as "full-fledged" alternatives).

d. Part IV - Analysis:

(1) Survey of senior commanders of armored and mechanized units in the U.S. Army and selected officers of foreign armies. The survey will provide a significant body of expert opinion.

(2) War game. Use of a commercial war game as a test of contending tactical concepts. Actual "combat data" from the war game will be incidental. The study seeks, by way of a questionnaire similar to this survey, to elicit from the war game players their judgment concerning how well divisions accomplished their missions and specific critical tasks while using the alternative tactical concepts.

e. Part V - Uncertainty Analysis.

f. Part VI - Organizational Issues.

g. Part VII - Summary and Conclusions.

The study relies to a great extent upon the subjective judgment of experts for its data.

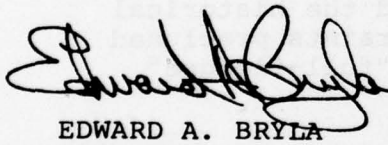
2. As to the survey itself:

a. Review Appendix 1, the Division Mobile Operations Battle Book and FM 100-5, Operations and FM 71-100, Armored and Mechanized Division Operations which we consider to be the alternative tactical doctrine and base case tactical doctrine respectively.

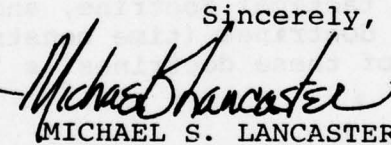
b. Subsequently provide three things: first, as a result of your review of the critical tasks which a division must perform, your judgment concerning the relative importance of each task; second, your judgment as to which tactical alternative would allow the division to better perform each critical task; and third, a judgment of whether the study has in fact identified clear tactical alternatives. Should you feel the need to provide further comment upon the study, the survey, or the tactical concepts, please do so in whatever form you like.

3. We understand that you will be investing considerable time and effort in your responses; we genuinely appreciate your assistance. We will provide you with a copy of the completed study.

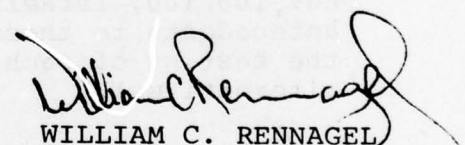
Sincerely,



EDWARD A. BRYLA
MAJ, AR
Research Associate



MICHAEL S. LANCASTER
MAJ, AR
Research Associate



WILLIAM C. RENNAGEL
MAJ, MI
Research Associate

Appendix 1: Division Mobile Operations Battle Book
Appendix 2: 1986 Weapons Systems

SENIOR COMMANDER SURVEY

CONTENDING TACTICAL CONCEPTS FOR THE 1986 U.S. ARMY

"HEAVY" DIVISION

SURVEY--PART I

1. Introduction

a. In this part of the survey you will be asked to specify preference values for the tasks which must be performed by a "heavy" division during combat. Your judgment will serve to measure the importance of each of the tasks and, when combined with Part II of the survey, will be used to determine the performance capability of the alternatives.

b. Each of the tasks is defined by a general definition to aid you in conceptualizing each particular capability.

c. In your deliberation you should consider the battlefield setting as some combination of many possible combinations of the range of conditions, provided immediately below, in which the division may be required to accomplish its missions and successfully perform its tasks. You must decide which conditions apply and with what frequency the division will encounter these conditions.

2. Battlefield Setting. The "heavy" division will be expected to accomplish its missions and successfully perform its tasks under a variety of conditions. You should consider:

a. the type and duration of the war--nuclear, conventional, or chemical/biological--which may be of short or long duration;

b. natural environment--time of year; time of day; terrain influences such as rural or urban setting, soil trafficability, and route availability; visibility and weather;

c. situation--1986 timeframe; types of missions; dimensions of activity, both lateral and in depth; fluidity of the action; and other factors, such as CAS, EW, and OPSEC. Consider the training state, personnel state, and materiel readiness of the division; current TO&E organization changed, if necessary, to include the addition of 1986 weapon systems (see Appendix 2).

d. threat--considerations include the type of unit which you are likely to encounter along with the state of its training, personnel, materiel readiness, modernization. Include in your considerations the density of the targets which you would expect to face and the missions/tasks of those targets.

3. Division's Critical Tasks

a. Target Servicing - The capability of the division to acquire, allure, engage, and neutralize or destroy threat firepower systems at the tactical level of duels and engagements.* Includes the employment and coordination of supporting weapons such as mortars, field artillery, and close-air systems, as well as countermobility and electronic warfare assets which enhance target servicing efforts.

b. Interdiction - The capability of the division to destroy, delay, or neutralize threat C³, CS, CSS, and firepower systems encountered as a result of maneuver conducted at the operational level of a battle* or attack by long range weapons systems.

c. Counterfire - The capability to suppress, neutralize, or destroy threat indirect fire systems. Includes all activities to direct such attacks.

d. Air Defense - The capability to detect, acquire, identify, allure, engage, and destroy enemy aircraft entering or overflying the divisional area of operations. Includes all measures designed to nullify or reduce the effectiveness of an attack by enemy air assets, be they high-performance fixed wing aircraft, helicopters, or cruise missiles.

e. Logistical Support - The capability to provide those critical supplies and services necessary to support the divisional elements committed to target servicing, interdiction, counterfire, and air defense tasks.

* 1. Duels - combat between elements and units of combat forces, from individual weapon versus individual weapon through company and battalion level. The essence of duels is firepower and is dominated by terrain. Favorable attrition through combat actions is the principle means of success.

* 2. Engagements - the management of duels in time, space, and proper sequence to establish conditions for further favorable action. Engagements are associated with battalions and brigades and are terrain and maneuver dominant. Engagements are a means toward a higher end.

* 3. Battles - the management of engagements in time, space, and proper sequence to implement the selected defeat mechanism against the enemy. Battles are associated with divisions and corps and are dominated by concerns of maneuver.

f. C³/EW - The capability to receive, coordinate, and disseminate orders, requests, combat information, and intelligence in an ECM environment.

g. Surveillance/Fusion - The capability to locate, classify, follow, project, and provide information on interdiction targets.

h. Force Mobility - The capability to move on the battlefield for the purpose of concentrating or relocating combat power. Successful movement includes preparation, control, support, and all actual air and ground movement except those activities directed toward interdiction.

i. Reconstitution - The capability to regenerate the force by CSS actions and provision of materiel required for continuous operations.

WEIGHTING OF THE CRITICAL TASKS

We should like you to apply your professional judgment as a hypothetical 1986 division commander to weight your unit's critical tasks, provided on the previous page. Give more points to those tasks which you judge to be more important. You can apportion a total of 100 points. You need not provide a rationale for your weighting scheme unless you wish to express qualifications concerning your decision. You may place these comments in the remarks section which follows the weighting table.

TASK	POINTS	POSITION (1-9)
TARGET SERVICING	_____	_____
INTERDICTION	_____	_____
COUNTERFIRE	_____	_____
AIR DEFENSE	_____	_____
LOGISTICAL SUPPORT	_____	_____
C ³ /EW	_____	_____
SURVEILLANCE/FUSION	_____	_____
FORCE MOBILITY	_____	_____
RECONSTITUTION	+ _____	_____
	= 100	

REMARKS

SENIOR COMMANDER SURVEY

PART II

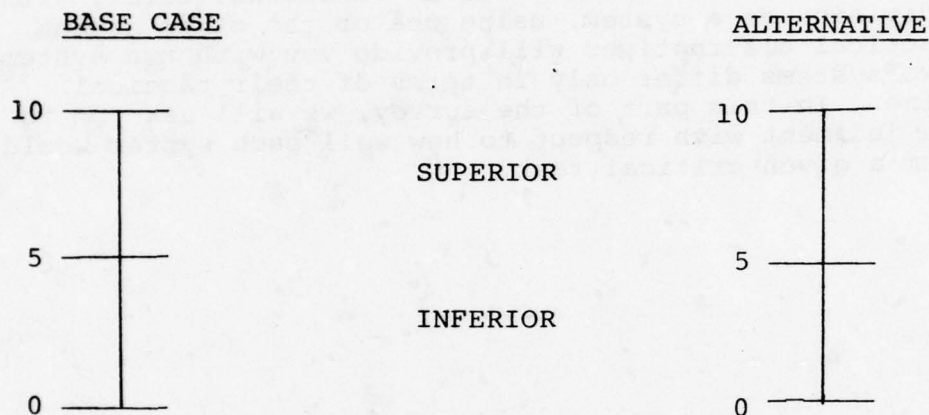
SURVEY--PART II

1. Introduction

Having completed part one of the survey, you are now familiar with the critical tasks and the tactical alternatives--the firepower based, force destruction base case and the maneuver based, force disruption alternative. If you now think of the battlefield in functional terms, with your division as a system, using one or the other of the two tactical alternatives will provide you with two systems. The two systems differ only in terms of their tactical doctrine. In this part of the survey, we will ask you to make a judgment with respect to how well each system would perform a given critical task.

2. Specific Instructions and Questions

Assume that your division has been required to perform each critical task many times. On the scale below indicate your judgment of the degree to which you would expect the division, on the average, to have performed the critical tasks using, alternatively, the base case tactical doctrine and the alternative tactical doctrine.



Please provide a whole number from each scale in the boxes provided for each task in the following list of critical tasks. If you wish to indicate that you would expect the division, on the average, to have performed a task significantly better or worse because of the tactical doctrines, select numbers for each alternative that differs by at least two whole numbers.

EXAMPLE:

Critical Task: TARGET SERVICING

Base Case 7

Alternative 8

This answer means that you would expect the alternative division, on the average, to have performed the target servicing task in a superior manner to only a slightly greater degree than the base case; and that you would not expect that either division would have performed at the minimum acceptable degree (5) or the maximum possible degree (10).

3. Questions

a. Critical Task: TARGET SERVICING



Base Case



Alternative

REMARKS:

b. Critical Task: INTERDICTION



Base Case



Alternative

REMARKS:

c. Critical Task: COUNTERFIRE



Base Case



Alternative

REMARKS:

d. Critical Task: AIR DEFENSE



Base Case



Alternative

REMARKS:

e. Critical Task: LOGISTICAL SUPPORT



Base Case



Alternative

REMARKS:

f. Critical Task: C³/EW



Base Case



Alternative

REMARKS:

g. Critical Task: SURVEILLANCE/FUSION



Base Case



Alternative

REMARKS:

h. Critical Task: FORCE MOBILITY



Base Case



Alternative

REMARKS:

i. Critical Task: RECONSTITUTION



Base Case



Alternative

REMARKS:

SENIOR COMMANDER SURVEY

PART III

SURVEY--PART III

Given your understanding of the base case and the tactical doctrine provided by the Division Mobile Operations Battle Book, do you see two clear alternatives presented? Making your comments specific will assist us in the final preparation of our study. We welcome any comments directed toward the refining of the mobile operations concept.

ADDITIONAL REMARKS:

TABLE D-11

CRITICAL TASK WEIGHTINGS - SENIOR COMMANDERS

<u>CRITICAL TASKS</u>	<u>WEIGHTS</u>	
	<u>PRIMARY</u>	<u>TRADOC</u>
TARGET SERVICING	20.82	14.00
INTERDICTION	8.45	12.00
COUNTERFIRE	9.18	11.00
AIR DEFENSE	7.00	10.33
LOGISTICAL SUPPORT	11.00	10.00
C ³ /EW	12.36	10.67
SURVEILLANCE/FUSION	8.64	12.33
FORCE MOBILITY	14.73	9.67
RECONSTITUTION	7.74	9.33

TABLE D-12

CRITICAL TASK PERFORMANCE JUDGMENT - SENIOR COMMANDERS

<u>CRITICAL TASK</u>	<u>PERFORMANCE JUDGMENTS</u>			
	<u>PRIMARY</u>		<u>TRADOC</u>	
	<u>BASE CASE</u>	<u>ALTERNATIVE</u>	<u>BASE CASE</u>	<u>ALTERNATIVE</u>
TARGET SERVICING	7.18	6.64	8.33	5.00
INTERDICTION	5.55	5.91	7.00	5.00
COUNTERFIRE	6.18	6.27	6.67	3.67
AIR DEFENSE	5.09	5.00	6.67	4.67
LOGISTICAL SUPPORT	6.36	5.27	6.67	1.67
C ³ /EW	5.18	4.82	6.33	3.67
SURVEILLANCE/FUSION	5.45	6.55	6.67	4.67
FORCE MOBILITY	5.82	7.00	5.67	7.33
RECONSTITUTION	6.18	6.00	7.00	2.67

TABLE D-13

DIVISION PERFORMANCE - CRITERION OF
CHOICE SENIOR COMMANDERS

PRIMARY SURVEY

DIVISION PERFORMANCE

BASE CASE

6.0332

ALTERNATIVE

6.0437

TRADOC SURVEY

DIVISION PERFORMANCE

BASE CASE

6.7951

ALTERNATIVE

4.2784

TABLE D-14

CLEAR ALTERNATIVE QUESTION

PRIMARY GROUP

4 - YES

8 - NO

TRADOC GROUP

2 - YES

1 - NO

TABLE D-15

RESPONDENT	PRIMARY GROUP	DATA ENTRY SHEETS - SENIOR COMMANDER SURVEY																		CLEAR ALTERNATIVE QUESTION RESPONSE	
		CRITICAL TASK WEIGHTING									CRITICAL TASK EVALUATION (BC/ALT)										
		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9		
1		30	15	5	5	5	15	5	5	15	5/5	3/3	4/7	1/1	5/6	3/3	4/7	4/6	4/8	NO	
2		20	3	9	9	15	12	5	22	5	6/8	4/7	5/7	7/8	6/5	4/7	5/6	6/8	5/6	NO	
3																				NO	
4		15	10	10	10	15	10	15	5	5/7	7/7	7/7	4/6	7/5	7/5	5/7	7/7	8/5		YES	
5		20	5	10	5	20	5	15	15	5	8/8	3/4	6/7	4/4	6/6	3/3	6/8	6/9	5/5	NO	
6		25	10	10	10	5	5	10	15	6/7	5/7	6/6	4/4	3/5	7/8	3/7	2/9	6/8		YES	
7		18	6	6	6	10	19	7	18	10	7/6	4/3	4/5	3/4	4/4	5/4	5/3	4/3	4/4	NO	
8		16	7	5	3	9	20	15	14	11	8/7	6/6	5/7	5/7	6/6	5/7	5/8	6/8	7/5	YES	
9		13	13	10	10	9	11	12	13	9	8/7	6/8	8/7	7/7	8/7	8/7	6/8	7/8	7/7	NO	
10		30	10	10	0	10	15	10	15	0	9/8	8/8	6/6	4/4	8/6	0/0	7/8	7/8	6/8	NO	
11		17	6	16	10	14	10	7	15	5	8/6	6/8	8/6	8/6	8/4	6/5	5/6	6/7	7/6	NO	
12		25	8	10	10	9	9	4	20	5	9/4	9/4	9/4	9/4	9/4	9/4	9/4	9/4	9/4	YES	
x		2082	845	918	700	1100	1236	864	1473	773	718	555	618	509	636	518	545	582	618	x	4 YES
s		588	356	309	344	397	501	403	461	469	147	197	766	239	186	260	157	189	160	s	8 NO
											664	591	627	500	527	482	655	700	600	x	ALTERNATIVE
											129	202	101	200	101	236	169	195	154	s	

D-5-23

ANNEX D-6

SENIOR COMMANDER COMMENTS

PRIMARY GROUP

SENIOR COMMANDER COMMENTS PRIMARY GROUP

1. Target Servicing

- a. The alternative allows the division to get at more targets.
- b. The base case focuses on firepower over maneuver. I would expect more killing fire therefore from the base case.
- c. The 1986 "heavy" division should use a 4th Brigade of Air Cavalry.
- d. The division should destroy more with base case, experience more meeting engagements with the alternative. Good scouts and the AAH could make the alternative overcome its disadvantage and be superior to the base case.
- e. The base case more oriented to firepower. The base case is also defense oriented which provides a greater opportunity for effective target servicing.

2. Interdiction

- a. No difference between alternatives...the question here is cost effectiveness.
- b. The alternative stresses maneuver to a greater degree than the base case and would logically provide more interdiction of enemy flanks and rear.
- b. The division should use helicopters in the interdiction mission across the FEBA.
- d. This task is included in successful Force Mobility, Target Servicing, and Reconstitution therefore it is not as

singly important.

e. An advantage to neither. The problem is intelligence information on targets.

f. This is the primary theme of the alternative doctrine. All efforts in the alternative are theoretically directed to this end.

3. Counterfire

a. No difference between alternatives. Capability depends on threat employment.

b. The case case focuses on firepower over maneuver. I would expect a more effective counterfire from the base case.

c. This task is included in successful Force Mobility Target Servicing, and Reconstitution therefore not as singly important.

d. TACFIRE will give a better score to both doctrines - if and when it is fielded.

e. The base case is oriented to firepower. Force destruction based on firepower of which counterfire is an essential element.

4. Air Defense

a. Maneuver beats firepower every time. Our weapons delineate our AD capabilities.

b. The base case focuses on firepower over maneuver. I would expect more Air Defense from the base case. Additionally the air defense task is simplified for "normal"

base case employment as compared to alternative.

c. The division should use Air Defense helicopters with "true" 3d dimension mobility.

d. This task is included in successful Force Mobility, Target Servicing, and Reconstitution therefore not as singly important.

e. The division does not have enough to do the job now or in the future.

f. Neither doctrine appears to emphasize AD over the other. Both allude to the necessity of air superiority, but there are not overt differences between the two which enhance air defense.

5. Logistical Support

a. Logistical Support is toughest when one is moving. Ask General Patton (the Elder) or General Bruce Clarke.

b. The problems of keeping fuel, ammunition, parts, and food supplied in the alternative would be staggering.

c. This task is synomonus to Reconstitution.

d. It is more difficult to support the alternative. Problem remains ammunition resupply.

e. The base case appears to be more rigidly organized on the ground making logistics support relatively easier. The flexibility of the alternative will make timely logistical support difficult.

f. The weighting is a function of my perception that we will continue to suffer severe shortages of the "tail" necessary to support the "teeth."

6. C³/EW

- a. Maneuver is tough to control.
- b. This is difficult enough in base case - compounded in alternative by greater distances, more rapid and continuous movement, and greater reliance on the radio.
- c. More mobile helicopter CPs are needed in this area; something better than a UH-1 with console.
- d. C³ rather than EW is the overriding consideration.
- e. This capability doesn't exist.
- f. The complexities of the modern battlefield with emphasis on maneuver will make command and control difficult. Command post movement will be more frequent in the alternative making constant communications difficult. The relative stability of the base case gives it an advantage.

7. Surveillance/Fusion

- a. If you perform this task well, more targets are available.
- b. Of necessity, a great fusion effort will be made in the alternative because of need to focus more on enemy rear. This mandates tying in assets normally not available to or employed by the division commander.
- c. This task is included in successful Force Mobility, Target Servicing, and Reconstitution therefore not as singly important.
- d. The alternative probably will force aggressor moves more frequently making the task easier.

e. The alternative is oriented to interdiction for which by definition this task is a prerequisite.

8. Force Mobility

a. The alternative is better since the major difference is in the greater reliance on maneuver.

b. Given effective accomplishment of effective C³/EW, the alternative is oriented on maneuver and must be considered more effective in this task.

9. Reconstitution

a. This task is difficult when moving.

b. Both doctrines can do it; but dispositions would probably make the task more difficult in the alternative.

c. Anything would be better than the base case. A total system concept is essential.

d. Both doctrines recognize the need for reconstitution. The base case may provide a bit more stable environment for reconstitution, but the alternative may be more flexible due to its greater mobility to protect the location of the units it tries to reconstitute. Neither doctrine appears to have an advantage here.

10. General

a. The bottomline is cost effectiveness. That is the payoff which the survey misses.

b. You have misinterpreted the doctrine contained in 100-5 and 71-100.

c. What I see is a natural reaction to what may be perceived as an over-emphasis on defense in today's Army,

plus a variation of the continuing discussions of the differences between Franco-German doctrinal views and ours. Actually, if combat power permits, maneuver can aid greatly in destroying enemy forces - by disrupting his C³ and denying freedom of support/replacement reinforcement. But, at division (brigade/battalion/company/platoon) level, you must destroy sufficient enemy combat forces to destroy the cohesion of the force opposing you. This requires the application of firepower. Secondly you need to seriously address the problems involved with supporting the force. The problem is barely manageable now. Having practiced deep maneuver operations at brigade level I can assure you it is a major consideration.

d. The alternative is a refinement and interesting method of explanation.

e. The alternative is "Rommel revisited." True mobility in the 1980s will only be use of the air. Vast use of helicopter forces in all areas. The alternative describes minor refinements of the base case.

f. There does not appear to be any substantial difference between the doctrine published in Field Manuals 100-5, Field Manual 71-100 and that offered in the Division Mobile Operations Battle Book. The concept of Disruption as defined in paragraphs I D. 4 a & c of the Battle Book is indeed important. That it is applicable has been amply demonstrated in numerous war games. FM 100-5 does address

this concept, however, specifically in Chapter 4 in "Fundamentals of Offense" #4 and #5. The concluding sentence of #5, quoted below, is reflected in Chapter 4 of FM 71-100 as well.

In general, the most decisive offensive is one which strikes, with overwhelming force into the enemy's rear, and destroys or captures his service support, combat support and command and control.

It may be argued that the positioning of "command and control" last within the paragraph indicates less emphasis; I do not believe that to be the case. All the concepts addressed in the Battle Book can be found in the field manuals, however, the concepts in these manuals are presented in somewhat more useable form. The most striking deficiency of the Battle Book is just that point....it is essentially a philosophic statement. The two field manuals are "how to" manuals. They present the "ought to" as the philosophic basis for the "How to" which follows. In this they are complete. For example: Section I.A. of the Battle Book presents a series of truisms about the commander. By contrast, the section entitled "Command in Battle" in Chapter #1 of FM 71-100 outlines the application of the same functions of command applying them by degree to each of the successive levels of command; some are generals' business, some colonels' business, some captains' business. The German concept expressed under 1. General Principles in Chapter #30 "Principles Planning and Course of the Attack," HdV 100/100

is less "Disruption"-oriented than our own. Paragraphs 3001 through 3022 enunciate principles governing offensive operations yet only once in them do the "masters of the indirect approach" focus on disruption. One must be impressed, however, by the great practicality of that document too, when compared to the Jominian dogmatism of the Battle Book.

g. Faced with the threat and the austere modernization of our forces by the 1985 timeframe, the U.S. Army is about in the same place in history where we were in the 1930's. However, the tactical doctrine may not be at fault, but I am inclined to believe our implementation of the doctrine in the field is at fault. Although I have stated the relative priorities in weighing the critical tasks, we are without the necessary leadership and material resources to accomplish these tasks. More important, I continue to find our total doctrine is not integrated into the total force effectiveness. As an example, our doctrine in reconstitution is essentially the same as in World War I--individual replacements. Logistical support is in disarray. In C³, we are still attempting to micro manage the battle instead of accepting the fog of war as a reality and develop leaders who can and will execute combat tasks. Nevertheless, I prefer the alternative doctrine, provided we be more specific in those critical tasks pertaining to logistical support, reconstitution, and force mobility.

h. After having read the material furnished, as well as FM's 71-100 and 100-5, I don't think the author's definitions are very well stated, much less cogent and tenable. My opinion is that fire and maneuver are equally important, interdependent, and most importantly, inseparable. The two alternatives are not mutually exclusive, therefore I don't believe any reasonable or definitively supportable selections can be made. I do believe that this entire paper begs the question of warfare's purpose. The authors are swallowing camels while swatting at gnats. Because the so-called "base case" is supposedly firepower oriented (surveyor's definition), I would select it as the best for those critical tasks requiring enemy engagement for the simple reason that I believe maneuver is a means to place firepower on defined objectives at critical times and places. I cannot subscribe to the authors' precept of "attacking by movement" with firepower used to support the movement as a distinct and separate alternative doctrine of warfare. Applying a numerical value to each case for comparative purposes is tacit agreement with the authors' concept, which I don't like to do.

i. In reviewing the survey, I will make the point to the researchers that I deem it imprudent to view anything in an "either or" case--that is, organization and structure versus tactics and doctrine. Indeed, one compliments the other. For example, if you wish to weigh the relative importance and efficiency of fire versus maneuver on the

battlefield, you cannot simply examine fire support units and their efficiency and then take the same look at maneuver units because, simply said, maneuver is effected to bring fire to bear and the more effective the fire the easier it is to maneuver. What I am trying to say, in a brief span of time, good and sufficient military structure and good organization give you a great deal more flexibility to use whatever tactics that you want. Moreover, effective tactics are really the flexibility to accept a degree of risk that will yield you the greatest returns. A good commander with sufficient force structure need not rely on an inordinate degree of risk that can border on being a military gamble. The best example is Eisenhower's advance in Europe with the material advantage he enjoyed. Montgomery attempted a single axis attack and was defeated in Operation Market Garden. Eisenhower elected to advance on a broad front, accepting little risk yet capitalizing on his material advantage, thus assuring destruction of the German forces. Again, this is oversimplification, but may give the researchers another angle they may have not considered.

j. Win = kill or death, drives an immediate reaction to target servicing, mobility and C³/EW. Division air defense is so inadequate in # and quality, (have no reason to believe # will improve to 86) one cannot expect the Division to contribute significantly in its own air defense. Logistics must reach division...once in division, resupply boils down to leadership and SOP.

k. Frankly, I find little new in the Division Mobile Operations. Few new terms, but in many ways it reads like a post "How to Fight" manual drawn from a pre "How to Fight" manual. You really have told me what I should do, but not how it might be done from a division commander's standpoint. I find my ways of influencing the battle are restricted to:

- my presence at the point(s) of decision
- use of my organic AAH
- Cross-reinforcing
- Artillery
- Reserve employment.

My greatest concern is that the difference in the Division in 1986 will equal the change from 69 to 79 - that has meant one new system, the TOW, and nothing else. Nothing new since '41 to break minefields, nothing new since 69 in EW or NBC. Many great plans, a lot of R&D, but nothing here that I can touch!

1. Interdiction would appear to be the most important task because, as it is defined, it is the essence of the alternate doctrine. However, effective target servicing and fire mobility are essential prerequisites to interdiction and therefore are given a higher priority. The task of surveillance and infusion is also critical to successful interdiction, but receives a lower priority than those tasks which entail direct engagement with the enemy. The same

sort of rationale puts C³/EW in the fifth spot. Counterfire and air defense are of equal importance and they are ranked as they are because parts of those tasks are inherent in higher priority tasks. For example, some counterfire is included in target servicing. Logistical support and reconstitution are essential, but do not involve direct enemy engagement which is the ultimate requirement of combat. I suggest a prioritization but emphasize that no one task is dominant.

m. Ranking of all critical tasks depends on the specific tactical situation. The basis of selection was the orientation of the two doctrines. In some situations accomplishment of a specific critical task might be counterproductive to another critical task. For example, concentration on reconstitution might hinder the logistic support of committed units by draining essential equipment away from the immediate battle in preparation for a future fight. Some critical tasks are also directly interrelated. The task of fire mobility is dependent on how well the task for C³/EW is accomplished. The relative weightings are not too far apart because either doctrine properly executed by a well-trained division can be successful, but neither can be expected to be perfect.

n. The difference in the two doctrines is most noticeable in their titles. The base case is portrayed as being firepower based and force destruction oriented

while the alternative is maneuver based and force disruption oriented. Beyond that, the two come closer together. Both would use fire and maneuver to destroy the effectiveness of the enemy force, that goal being achieved by both destruction and disruption. The alternative has the advantage in this study of being concisely packaged and not having to be concerned with the detail that has been developed in the base case. The base case is more inclined to the defense because it tries to cope with the concept of fighting outnumbered with a defensive mission. The alternative, being theoretical at this point, does not have to do that and espouses the offense not unlike the German Blitzkrieg of World War II. The base case would benefit from the concise treatment given the alternative; reducing it to its basic elements for analysis. That would reduce the apparent differences between the two doctrines.

The symbology used in the alternative is not unlike the base case. Some new ideas are present but others are already in use in the base case. For example, passage points are used by both but the alternative proposed a new symbol. The thrust line can be favorably compared to the direction of attack in the base case. The thrust point is a new idea which has the value focusing attention and effort at a predicted enemy weak point. The "slightly restrictive" and "restricted and specific" symbols are probably superfluous. These points could as easily be designated by the

battle position symbol in the base case with the appropriate mission of hold or ambush included in the order. To some degree the alternative suffers because there is an appearance of changing symbol names for the sake of change. For example, a "stop line" in the alternative is a "limit of advance" in the base case. There are also a number of essential control measures that should be carried from the base case to the alternative such as the fire support coordination line (FSCL).

The alternative, though well thought out and presented, is sometimes confusing in that it borrows freely in terminology from various sources, but assigns unfamiliar definitions. Unfamiliar in the sense that in the base case they may mean something else. For example, the term strategy is not usually used as the alternative uses it in describing the defeat mechanisms. The defeat mechanisms, as explained in the battle book, are tactical concepts. The overall national strategy may be one of attrition but the tactics used may be those of dislocation. Using strategy to define tactics is confusing. There appears to be an attempt to develop a level of operations between tactics and strategy which concerns itself only with maneuver at division and corps levels. The definition of the "battle" wherein concerns of maneuver are paramount, implies a reduction in the centralized fire control employed in the base case. The lack of emphasis on the integration of fire power and fire

coordination in the alternative doctrine also implies this.

o. Let me say that your Battle Book is excellently written. Don't necessarily buy all you say - but most of it. And it holds together well. Note in your introduction, you lumped HdV 100/100 together with FM 100-5. That's a mistake. 100/100 is nearly the antithesis of 100-5. But my comment is really cosmetic, because your battle book clearly explains the "alternative".

p. The new systems projected for the early '80's are a long way from being in the hands of the troops. When and if we receive them there will be a major indoctrination program required from the bottom of our rank structure up through the Corps Commander. While it is clear that once they are incorporated into the structure, we will be better prepared to combat the threat, I am concerned that we may currently be too preoccupied with the future acquisitions at the expense of today's structure and equipment. In the European environment, we are concentrating on longer ranged, more lethal killing power, when I submit it may be more prudent to be able to fight in built up areas and crowded areas. Force modernization as envisioned with the new acquisitions will require in my judgment a "smarter" soldier to operate the vast array of devices. "Black Boxes" will abound and yet I fail to see a comparable effort to either develop the necessary troopers to make them operate or to

develop a complete test bed to ascertain if they will operate completely and efficiently in a confined battle environment.

q. However, a word of caution should be interjected prior to reading the numbers. Our doctrine serves a specific strategy. It is a NATO-oriented doctrine that the Department of the Army directed TRADOC to develop, in response to the need to prepare the Army to win the first battle, a NATO battle as established by our national strategic objectives (Consolidated Guidance).

At the risk of talking down to a sophisticated audience, let me add that our doctrine defines a "game plan" that optimizes our forces for one set of conditions--threat, environment, mission, and capabilities of our forces. As new sets of conditions continue to evolve, the doctrine must grow or expand. As the structure of your research indicates, we must periodically reexamine the doctrine to ensure that it continues to address our strategic objectives and the conditions we expect to encounter on the battlefield. My response indicates my priorities to optimize a division for the first battle in a NATO environment.

The earlier demands placed upon a Foch or Guderian to develop doctrine for one war are dwarfed by the contemporary doctrinal requirements confronting the U.S. Army. Future development of our doctrine must address subsequent battles to restore the territorial boundaries of our NATO allies, as well as potential battles in Korea, the Middle

East, or the Persian Gulf. Consequently, we see a need for doctrinal change in the near future to accommodate the need for "game plans" to optimize our forces for offensive operations, mountainous regions, and desert plains. I will not prejudge those efforts, but confine my remarks to the conditions of the first battle.

Part II of the survey suggests a contradiction between styles of operations, i.e., attrition warfare versus mobility warfare as reflected in the Battle Book. The style of operations of my division would clearly result from the existing conditions of the battlefield. The first battle would be fought as depicted in FM 100-5, bleeding the enemy under conditions that optimize my forces. Major offensive operations (Battle Book Warfare) during the first battle might find my division in the German Democratic Republic or elsewhere on Warsaw Pact LOCs--which contradicts the strategy our doctrine serves. Thus, my division will fight the battle using the operational techniques of FM 100-5; although subsequent battles could well be fought more effectively under a substantially different doctrine that optimizes my forces to conduct mobile warfare. Consequently, my responses do not accept the contradiction between operational systems that your survey suggests. However, I accept that the operational techniques enunciated by the Battle Book may well characterize future doctrine designed

to win subsequent battles of a NATO war or a Persian Gulf war, for example.

The doctrine must serve the strategy of the Nation. Were we to rephrase the question and hypothesize an offensive strategy (restore the boundary of the FRG, or destroy enemy forces invading Saudi Arabia), the Battle Book style of operations would be superior, and my ratings would be reversed at the same level of magnitude. This response should clearly indicate my judgment as to the direction of future development of Army doctrine. The bottom line is soldiers and their doctrine serve the objectives of policy and their political leaders, and further expansion of our doctrine is necessary to cope with the changing demands of policy.

ANNEX D-7

SENIOR COMMANDER COMMENTS TRADOC GROUP

ANNEX D-7

SENIOR COMMANDER COMMENTS TRADOC GROUP

1. Logistical Support

How do you support the tempo of operations that the alternative suggests? How long could a division sustain itself with its initial logistics? Should not some logistics principles be part of the alternative's operational concept?

2. C³/EW

We have not solved our problems in this area (doctrinally or technically; inadequate and overwhelming - old procedures; enemy EW; too many echelons, too much traffic; too much equipment; too great a communication system vulnerability; and monstrous support requirement). Without some better way to exercise control in the kind of war we are talking about we will not get very far in any attempt at truly effective mobile operations. The alternative does not help much.

3. Force Mobility

This part is good in the alternative. YOU must watch the control measures you introduce. Some may be more restrictive than the base case. How can you have thrust lines for situations which are unclear or developing? Is not a focus of effort better described by a good goal and objective statement?

4. General

a. I think that the clear separation of philosophies generated by the terms firepower based and force destruction vs. maneuver based and force disruption concepts is unfortunate. This very clear setting of alternatives cannot in my opinion be implemented. Therefore, the content of the battle book is discredited. More on this point in a moment. I regard the book as an excellent first draft; do not take my previous comment as a completely negative one. I feel you have failed to recognize the threat's performance potential (surprise, mass echeloning, suppression, theater-wide attack capability, etc) and the environment (Western Europe) in which the battles may occur. Battle with that threat in that environment must be based upon a firepower oriented tactical concept. Excessive maneuver and the attacking of flanks while the threat drives to pre-selected "political objectives" is not viable. The U.S. Army's prime mission is to deter. Deterrence must be based upon a firepower, disruptive set of tactical concepts oriented on the defeat of the threat's tactical capabilities. Remember the threat must win fast, time is against him, therefore, we deter him by presenting a force potential (systems and doctrines) that can destroy his potential not out-maneuver it. The depth of the battle area is a factor in this discussion. Maneuver requires depth - a commodity we have little of. Another point, the maneuver alternative implies,

in my view, retention of ground reserves which I am sure you will agree we do not possess. In building your case, I think you have also failed to recognize what modern sensors and instant barrier (scatterable mines, etc.) will do for us. Why generate a tactical concept based on "excessive" maneuver, when you can cause the threat to attack through a series of fire covered barriers.

Though I enjoyed reading the battle book, I feel that the level of discussion is above that of the field manual. The description and relationships on Page 8, Part 2, Operational Concepts, on presenting alternate surfaces is an excellent thought that should be built on. The same is true of the thrust and tempo discussion on Page 11 of Part 2. The comparison of width and depth in the discussion of force distribution (Page 14) is something that we'll continue to use.

In summary, a good effort that will promote meaningful discussion as we revise our concepts and doctrine. I personally like the emphasis on maneuver and force disruption; however, I feel that this must include both the systems and doctrine to destroy by fire. Remember the offense that you discuss in the paper is predicated upon direct firepower systems.

b. All the tasks are important. At certain times, in war, some will be more important than others. For example, during a defensive phase of battle the importance of some

tasks will be different than in an offense.

c. What will the survey tell you? Should we not ask ourselves whether we have identified all the right tasks? Could something like "battlefield preparation" be added?

d. The alternative does not address as part of offense: Vertical containment of highly mobile enemy elements capable of counterattacks, offensive suppression, and sustainment of operations. It is missing: Theater deep battle considerations, meaning of effect of new weapons systems and munitions, and importance of own and enemy action sequences. It is confusing with regard to: "surfaces", and "shaping of the battlefield" - is this "battlefield preparation"?

e. Your emphasis on offense, initiative, surprise and mobility is excellent. However, within the context of overall tactical doctrine it does not present a clear alternative because: (1) the offensive principles you cite are not new; (2) your examples fail to show how emphasis on the offensive could more quickly paralyze or destroy the enemy; and (3) you do not bring out - as an example of how it could be done - the new weapons system such as the AAH (and its mobility differential compared to current systems). What is really different in your brigade attack example? (Compared to doctrine described in FM 71-100). Your thrust line appears incongruous or superfluous. Does not the zone or axis of advance with a good "intentions" statement achieve

what you desire? Do not let these nitpicks discourage you. You have developed a needed emphasis, on maneuver, by which proven principles and evolving concepts/doctrine should be interpreted.

f. I vastly prefer the alternative concept in an abstract sense. Who is not in favor of the more dashing solution; who is not against attrition. Every Army officer worth his salt yearns for an alternative. Strategy/tactic for defense of NATO Europe. Every officer prefers attack to defense. So, I don't believe you need the survey. The outcome is already clear - you even have my vote - with one stipulation. That stipulation is that we are not talking about NATO in its present or proximate condition - i.e., correlation of forces, weapons, reserves, geography. Tactics are simply the application of available forces to a particular mission, however, disagreeable. It may be that the "Force Disruption" tactics and the "active" defense are more similar than they are different. However, I must assume that "Force Disruption" requires deep penetration of the enemy rear even when he is attacking. My answers to your questionnaire are premised on this assumption. I urge you to consider the penalties involved in opening-up-the-battle to a larger equally mobile force particularly in view of the limited terrain in West Germany - the proximity of the Industrial heartland to the border. Furthermore, you should soberly consider the effect on the NATO Intelligence

system, C³, Tactical Air Support, Air Defense and Maintenance & Supply systems of a free wheeling mobile battle. If you war game all these implications it will be a sophisticated game. If you do not, or are unable to do so, then be careful as you draw conclusions. The defensive chapter of 100-5 and indeed much of 100/100 is written within these onerous constraints. It is not the way to defend against in other areas of the world on entirely different circumstances. I suspect that your real frustration stems from the baleful influence of the objective situation in Europe. We do not have the forces available or in prospect for a counter-offensive. We do not even have the ammunition or war reserves for a respectably long fight. Those of us who have been preoccupied with this problem for years have evolved a tactical response which is conservative - based on weapon capabilities - German terrain - Soviet capabilities - and is designed to prevent a sudden Soviet thrust to the Rhone - thus a practical but militarily depressing solution. Yours, is more far more martial, more macho, less realistic. Let us keep yours for all other wars at all other times - and wistfully for the time when we have the military means to fight the war in NATO the way real soldiers would like to fight it.

ANNEX D-8

SENIOR COMMANDER COMMENTS "SPECIAL INTEREST" GROUP

ANNEX D-8

SENIOR COMMANDER COMMENTS "SPECIAL INTEREST" GROUP

1. Target Servicing

The alternative should give greater opportunity. It should double opponents losses but it will also inverse our losses.

2. Interdiction

Far more a task different than most seem to appreciate. It is hard to demonstrate its battlefield impact. This is a resource sink. But a great way to provide welfare to the U.S. aerospace industry.

3. Counterfire

It is likely to be more effective in base case but also for more important. The alternative is very weak in explaining how to conduct counterfire in its operations. Also what about suppression, smoke, etc.? These need for more exposition and analysis. What about direct fire artillery, e.g., Soviet SP122? How will you use artillery to support transition from one engagement to another?

4. Air Defense

The base case will fall apart without much heavier mobile air defense - but its concept of utilizing it is still in the stone ages. The alternative is actually more dependent on mobile air defense but also more likely to work out an integrated doctrine for its employment.

5. Logistical Support

The U.S. Army's logistics position in Europe is 1/3 short by the time the units get to the GDP and it goes down hill from there. The base case ought to have higher consumption rates but the alternative would require mobile logistic support to keep up with the armor...a concept that has not been explored since B.H. Liddel Hart in the 1930s.

6. C³/EW

The C³ problems of the U.S. Army will not be solved by technology. The base case is totally dependent upon C³ operating at peak capacity - which I seriously doubt. I rate the alternative higher because of its action/task orientation rather than the fetish for coordination. But that is only a potential plus for it could easily be converted back to a talking, as opposed to, fighting doctrine.

7. Surveillance/Fusion

The current heavy dependence upon this task in the base case makes us a natural set up for deception from the other side or worse, (and far more likely) for self deception. If I thought the alternative would use it to focus on where the opponent isn't as opposed to reacting to where we think he will be I would rank it higher because it's a natural assist in conducting a counter thrust or raid operation which regains the initiative and forces him in a reactive mode.

8. Force Mobility

Lateral force mobility, as the basis of a defense doctrine like the base case is a game plan for disaster. Intra

theater airlift, or deep mobile reserves are non starters when given close scrutiny. Key issues of force mobility are: 1) Readiness - preparation and movement to GDP; 2) Counter mobility - the integration of lateral mines on flanks of counter thrust and use of heliborne infantry to leap frog and screen thrust. Although the alternative doesn't discuss these it seems more attuned to them.

9. Reconstitution

Low marks for both but for different reasons. No one seems to understand the major issues of reconstitution and just how important it is. Base case would fit best with current "filler" system - which is not at all suited for true reconstitution. Alternative would fit best with a real and innovative reconstitution system - but I see no evidence of it in the prospective. Without a radically new reconstitution system the alternative would be worse than the base case.

10. General

a. Reasons for weightings:

- highly fluid battle will be decided by those units engaged - thus target servicing is critical to either base case or alternative.

- maneuver units will take highest losses, and will need immediate and repeated reorganization.

- counterfire, outnumbered 3-1, will be critical but only if it can be supplied with enough armor.

- tactical force mobility will only be as good as the mobile air defense to protect it.

- I am very skeptical of all the claims currently being made in the C³, intelligence, interdiction areas - in the field most will break down, worse give distorted perspective - not worth the time or dollars being spent.

- we better start depending less on electronic C³ and assure heavy EW.

b. You have what I would describe as a level of analysis problems. 100-5 and its assorted supporting documents were heavily oriented to tactics. Your alternative is much more clearly oriented to "Operations" in the classic German/Soviet sense.

On the other hand, while there is an obvious (perhaps superficially obvious) philosophic difference (i.e., firepower vs maneuver), I do not believe that the true differences between the two approaches have been drawn in real terms. Let me give a personal example. We have recently been playing a wide variety of runs on our own war game model (TACEUR) which focuses on Corps decisionmaking but goes down in resolution to company (and in some cases platoon) level. Often several dozen runs modeling V Corps (by the way the simulation was specifically designed to model the ten BDP/Division 86 tasks under simultaneous movements and degraded intelligence)

we found the following results. 1) If one summed up the totality of battalion engagements for Blue the result was as follows: 40% Active Defense (i.e. predesignated kill of zones and alternative fall back positions); 20% Host Delay (usually under pressure of being outflanked); 20% Offense (about equally divided between a) counterattack to retake critical terrain feature so as to replay Active Defense against next echelon; and b) larger brigade size counterattacks - with battalion raid operations - into the weak shoulder of the Red penetration. The latter if carried off with audacity had a positive impact all out of proportion to the effect and losses required to conduct; 20% + Meeting Engagement/Encounter Battle (when playing with simultaneous movement and modeling all source intelligence - which degraded very rapidly - meeting engagements occur all over the place. Not just the covering force but on flanks and especially in Blue rear; and 2) the point of the foregoing is that for about 40% of a V Corps battle employing a "heavy" division I would use base case/Active defense doctrine. For about 40% of the engagements - i.e., offensive and meeting engagement I would use the alternative maneuver doctrine. Albeit, it needs much refining. Neither, in my opinion, give adequate attention to the very real problems of Hasty Delay or Retrograde.

APPENDIX E

BASE CASE TACTICAL DOCTRINE

APPENDIX E

BASE CASE TACTICAL DOCTRINE

1. Introduction

Too often FM 100-5, Operations is considered to be "Army Doctrine." In fact, FM 100-5 is merely the "capstone" manual, a general introduction, to a whole family of field manuals covering subjects from Attack Helicopter Operations, FM 17-50 to Tactical Deception, FM 90-2. It is with this family of manuals, more are being written, that the U.S. Army seeks universality in its doctrine. A complete listing of the manuals presently in print is included as Para 4. of this Appendix.

2. Base Case for the Study

For the purposes of the study, considering the system to be evaluated, U.S. Army doctrine was considered to consist of FM 100-5, and FM 71-100, Armored and Mechanized Division Operations.

3. Review of Base Case Issued to War Game Players

The following sections of the FMs were given to "Blue" war game players to facilitate their review of U.S. doctrine for the war game and the surveys:

- a. Chapter 3 of FM 100-5, "How to Fight."
- b. Chapter 4 of FM 71-100, "Offensive Operations," minus the Threat paragraphs.
- c. Chapter 5 of FM 71-100, "Defensive Operations," minus the Threat paragraphs.

4. "How-to-Fight" Manuals (DA Cir 310-1, dtd 19 Jan 79)

Forty-seven of the Army's most important manuals are classified as "How-to-Fight" field manuals. They are produced by Headquarters, TRADOC as Department of the Army (DA) publications. Each is published with a distinctive camouflage cover. "How-to-Fight" manuals are used with the appropriate Army Training and Evaluation Program (ARTEP). ARTEPs describe what tasks will be performed and the conditions and standards under which they will be performed. "How-to-Fight" manuals describe how to perform the tasks. Twenty-one "How-to-Fight" manuals have been published to date. They are identified by a single asterisk (*) in the list below. In addition, two joint Tactical Air Command (TAC)/TRADOC Training Texts are being produced.

	<u>PUBLICATION NUMBER/TITLE</u>	<u>PROJECTED DA PRINT</u>
<u>CAPSTONE</u>		
*	FM 100-5, Operations (1 Jul 76), with Change 1, 29 Apr 77	
<u>COMBAT</u>		
*	FM 7-7, The Mechanized Infantry Platoon and Squad (30 Sep 77)	
	FM 7-8, The Infantry Platoon/ Squad	MAR 80
	FM 7-10, The Light Infantry Rifle Company	DEC 79
*	FM 7-20, The Infantry Battalion (Inf, Airborne, Air Assault, Ranger) (3 Apr 78)	

	<u>PUBLICATION NUMBER/TITLE</u>	<u>PROJECTED DA PRINT</u>
<u>COMBAT</u>		
	FM 7-30, The Infantry Brigades	Sep 80
*	FM 17-12, Tank Gunnery (3 Oct 77), with Change 1, 29 Sep 78	
	FM 17-40, Attack Helicopter Gunnery	Dec 79
*	FM 17-47, Air Cavalry Combat Brigade (29 Apr 77)	
*	FM 17-50, Attack Helicopter Operations (1 Jul 77)	
*	FM 17-95, Cavalry (1 Jul 77)	
	FM 30-5, Combat Intelligence	Dec 79
*	FM 71-1, The Tank and Mechanized Infantry Company Team (30 Jun 77)	
*	FM 71-2, The Tank and Mechanized Infantry Battalion Task Force (30 Jun 77)	
	FM 71-3, Armored and Mechanized Brigade Operations	Dec 79
*	FM 71-100, Armored and Mechanized Division Operations (29 Sep 78)	
	FM 71-101, Infantry, Airborne, and Air Assault Division Operations	Sep 79
	FM 90-14, Rear Area Combat Operations	Mar 80
	FM 100-15, Corps Operations	Dec 79
	FM 100-29, Operational Terms and Graphics	Sep 79
	FM 101-5, Staff Organization and Operation	Sep 79

<u>PUBLICATION NUMBER/TITLE</u>	<u>PROJECTED DA PRINT</u>
<u>COMBAT SUPPORT</u>	
FM 3-50, Smoke Generator Unit Operations	Dec 79
FM 3-87, NBC Reconnaissance and Decontamination Operations	Jun 79
FM 5-100, Engineer Combat Operations	Mar 79
* FM 6-20, Fire Support in Combined Arms Operations (30 Sep 77)	
FM 6-20-1, Field Artillery Cannon Battalion	Aug 79
FM 6-20-2, Division Artillery, Field Artillery Brigade, Field Artillery Section (Corps)	Sep 79
* FM 11-50, Combat Communications within the Division (31 Mar 77)	
FM 11-92, Corps Signal Communications	Feb 79
* FM 24-1, Combat Communications (30 Sep 76)	
* FM 44-1, US Army Air Defense Artillery Employment (25 Mar 76)	
* FM 44-3, Air Defense Artillery Employment, Chaparral/Vulcan (30 Sep 77)	
FM 44-10, Air Defense Artillery Employment, ROLAND	Jun 82
FM 44-11, Air Defense Artillery Employment, DIVAD Gun	Jun 83
FM 44-18, STINGER Air Defense Guided Missile System	Jun 81
* FM 44-23, US Army Air Defense Employment REDEYE (30 Sep 77)	

PUBLICATION NUMBER/TITLE

PROJECTED
DA PRINT

COMBAT SUPPORT

- * FM 44-90, US Air Defense Artillery
Employment, HAWK (30 Nov 77)
- * FM 90-1, Employment of Army Aviation
Units in a High Threat Environment
(30 Sep 76), with Change 1 (20 May 77)

SPECIAL OPERATIONS

- * FM 90-2, Tactical Deception (2 Aug 78)
- * FM 90-3, Desert Operations (19 Aug 77)
- FM 90-4, Airmobile Operations Mar 80
- FM 90-5, Jungle Operations Dec 79
- FM 90-6, Mountain Operations Sep 79
- FM 90-7, Obstacles Jul 79
- FM 90-10, Military Operations on
Urbanized Terrain Jun 79
- FM 90-11, Northern Operations Mar 80
- * FM 90-13, River Crossing Operations
(1 Nov 78)

JOINT TAC/TRADOC TRAINING TEXTS

- TRADOC Training Text 6-20-7/TACP
50-21, FAC/FIST Operations Apr 79
- TRADOC Training Text 17-50-3/TACP
50-20, Joint Air Attack Team
Operations Mar 79

APPENDIX F

ALTERNATIVE TACTICAL DOCTRINE

ANNEX F-1

MOBILE OPERATIONS CONCEPT PAPER

OVERVIEW

Uncertainty exists as to Soviet approaches to structuring the battlefield.

- The Soviets have a spectrum of strategic and operational alternatives.
 - Massive, traditional "breakthrough" operations.
 - Multiple penetrations using the concept of "expanding torrents".
- There is inadequacy in existing doctrine for dealing with Soviet strategic and operational alternatives.

Strategy and tactics that can effectively counter this array of Soviet alternatives must be developed such that U.S. commanders can control the battle and impose their will on the enemy.

- German operational methods developed in WW II offer one alternative.
- Develop an operational method that uses surprise, fast tempo, and fluid operations to confuse the enemy and to pull apart his organizational cohesion.

ESTIMATE OF THE SITUATION: THE BREAKTHROUGH

The massing of Soviet Armies into Fronts during WW II was the only technique whereby the Soviets could crack German positions.

- This required narrow divisional fronts (2 to 4 km) and divisions echeloned in depth to maintain momentum as successive bands of German defensive positions were penetrated.
- Artillery control was centralized to manage the firing of massed groups of artillery battalions.
- This was noreasonable alternative as the Soviets lower level leadership was untrained and inflexible.

Typical U.S. Army estimates of the situation assert that each of the Soviet Armies deployed in East Germany will employ "breakthrough" tactics. A typical Soviet operational deployment is depicted on the following page (Figure 1).

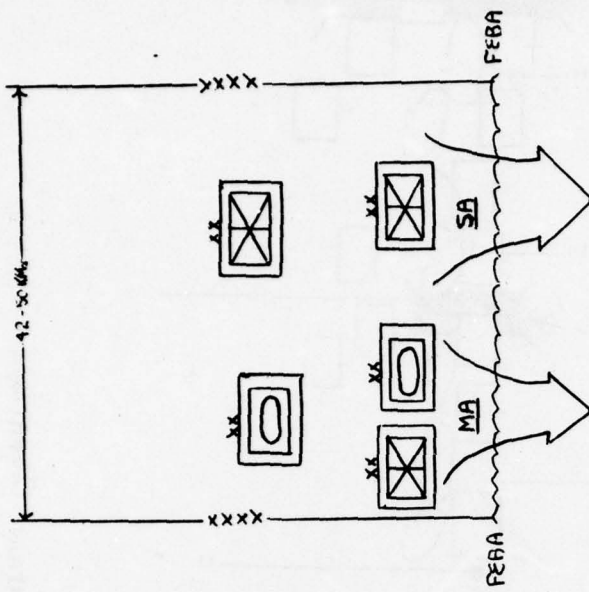
ESTIMATE OF THE SITUATION: MULTIPLE PENETRATIONS

The multiple penetration option may be a Soviet attempt to copy German WW II offensive operations.

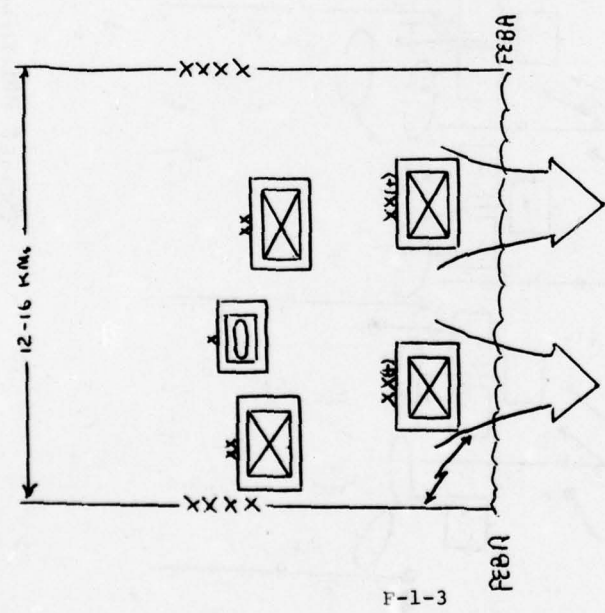
- The Germans possessed insufficient resources to pound holes in Soviet defenses in preparation for an exploitation into the enemy's rear. Consequently, the Germans trained competent reconnaissance squadron commanders to identify weaknesses or gaps in Soviet defensive lines and then infiltrate successively larger units through these gaps (similar to Hitler tactics in WW I). These units would initially suffer little attrition; their combat power would be expended in attacking units in the Soviet rear, bringing about the disintegration of the Soviet control and support apparatus.
- Typical U.S. Army estimates are that inflexibility continues to exist in the tactical thinking of Soviet regimental and battalion officers. However, it may be that flexibility in Soviet divisional units is due to well trained division commanders, numerous and mobile second echelon forces, and increased momentum and firepower when compared to their WW II formations.
- This suggests the possibility that Soviet divisions may deploy with the units of the two first echelon regiments in extended line with companies and battalions probing for gaps or open flanks in the defense. Once a gap is identified, second echelon forces will move to reinforce success. This operation is depicted in the following figure (Figure 2).

ESTIMATE OF THE SITUATION: TWO EXTREMES

The "Breakthrough" and the "multiple penetration" represent the range of Soviet strategic and operational alternatives.



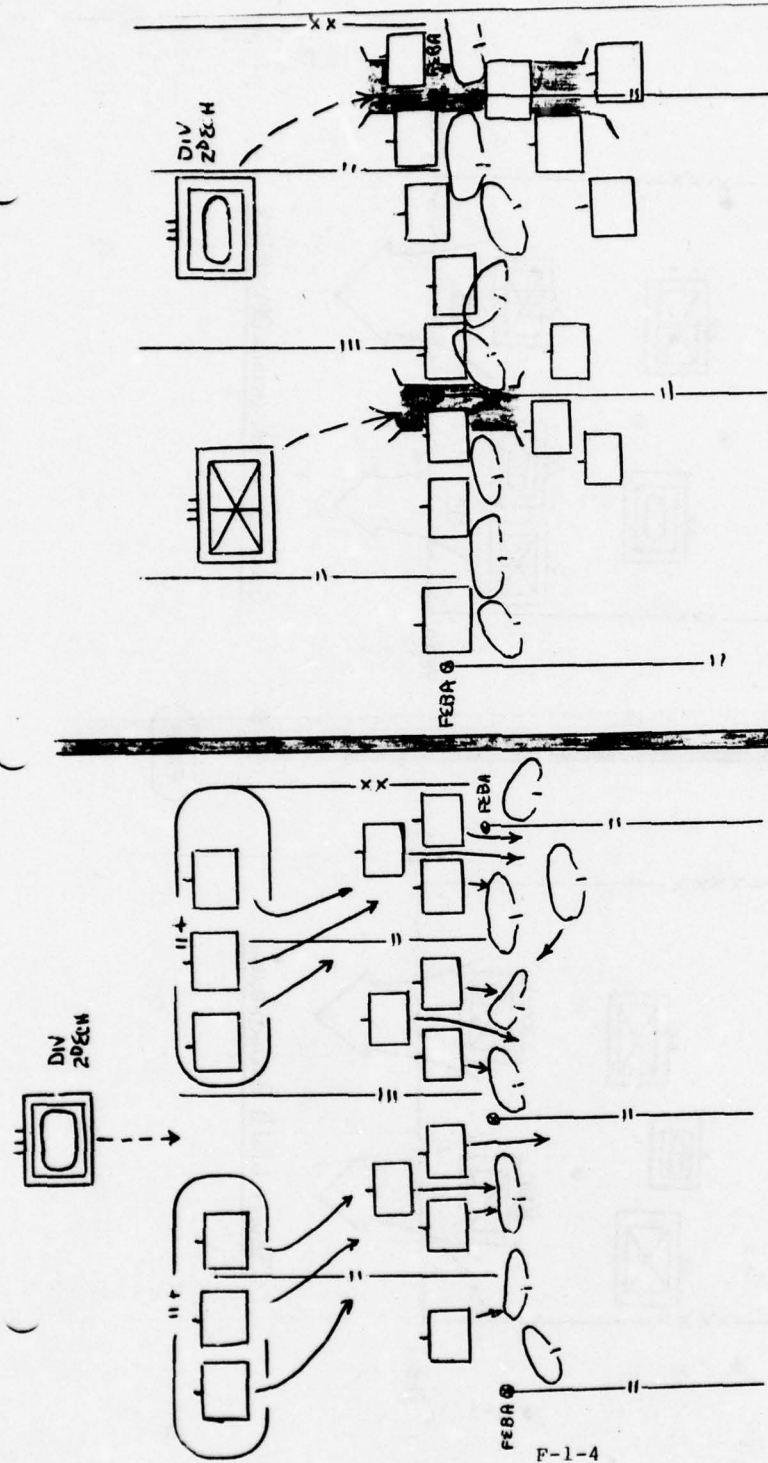
SOVIET DELIBERATE ATTACK DM - 1970's



SOVIET WW II BREAKTHROUGH

F161

F-1-3



F-1-4

SOVIET MULTIPLE PENETRATION OPERATIONS

FIG 2

The problem which we face is how to counter both of these extremes.

To defeat an opponent one must defeat his strategy.

- This requires a strategy which can dominate the adversary's choice of strategic alternatives.
- One which regains the initiative for the defender.
- One which maximizes one's own strength while exploiting the enemy's weakness.

CURRENT DOCTRINE VERSUS THE BREAKTHROUGH

US ACTIONS

All source intel to detect time, direction and intensity of main attack.

With identification of main attack (if possible), combat units move laterally behind the FEBA (a flank march) to reinforce the threatened area. Reserves are moved forward to stiffen most threatened areas. (See Figure 3)

Operations consist of preventing enemy from gaining greater than a three to one advantage in the area of combat.

SOVIET ACTIONS

If "breakthrough" required, then artillery, tanks and motorized infantry are massed.

If first echelon becomes bogged down in first sector of attack, then commit second echelon against new sector. (See Figure 4)

CRITIQUE

Mobility is used to concentrate forces in front of an enemy where the use of firepower becomes important in stopping the enemy's momentum by destroying his forces. The advantages of mobility are wasted in shifting about armored "pillboxes". Command, control, and communications problems are intensified by shifting many units across the battlefield. Concentrating in one sector against the apparent "breakthrough" ignores the influence of the enemy's second echelon on the battle as well as enemy attempts at deception and surprise. The operational concept underlying the current

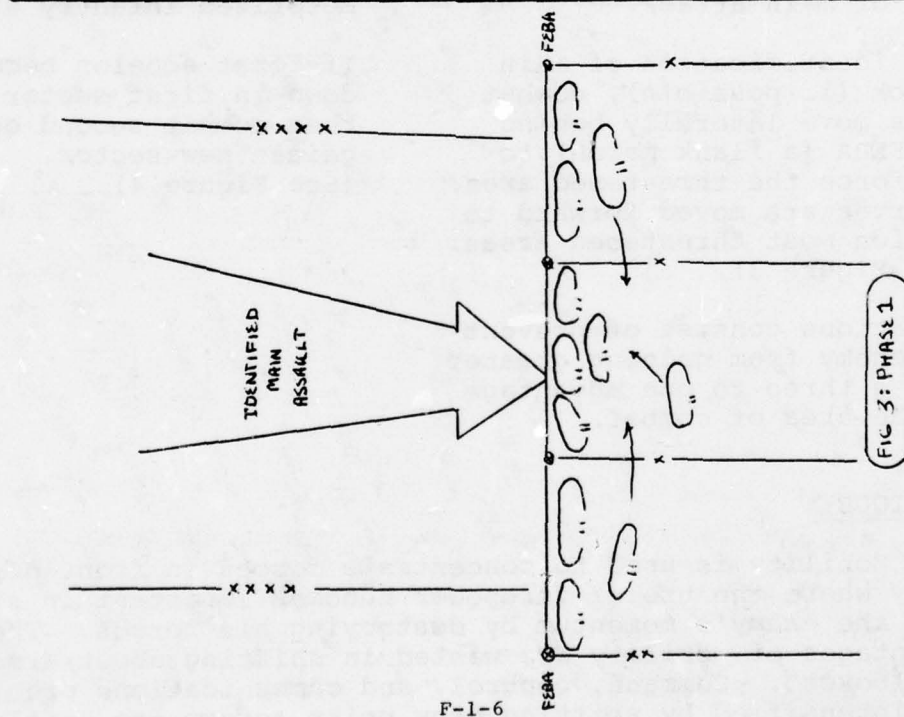


FIG 3: PHASE 1

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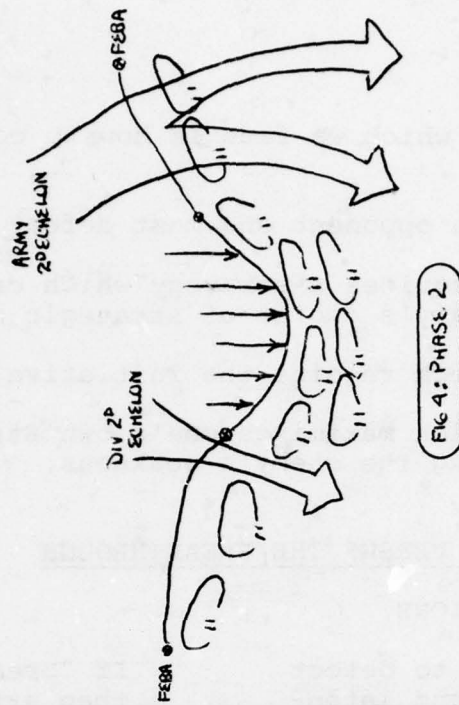


FIG 4: PHASE 2

CURRENT DOCTRINE VS. SOVIET DELIBERATE ATTACK

operational material suggests destroying enemy strength (mass) through attrition. However, massing one's forces in the path of a determined adversary may lead to annihilation warfare reminiscent of WW I. In this instance, God may be on the side of the stronger battalion.

The operational method is reactive. It allows the enemy to dictate the initial nature of the battlefield, as well as its subsequent development.

CURRENT DOCTRINE VERSUS THE MULTIPLE PENETRATION

US ACTIONS

All source intel may detect "weighting" of Soviet attack but cannot detect areas of breakthrough. (See Figure 5)

Due to combat dispositions, brigade and division reserves are too small to cope with expanding torrents of Soviet second echelon forces.

Units deployed forward are engaged by Soviet combined arms teams and lose capability to maneuver laterally against flanks of penetration. They are likely to become decisively engaged very early in the battle.

SOVIET ACTIONS

Combined arms teams advance on an extended front with teams probing for gaps or open flanks in the adversary's defense. Second echelon battalions and regiments reinforce success when and where gaps are discovered. "Expanding torrent" exploits into the communications zone. (See Figure 6)

Airmobile operations support flanks or points of breakthrough, delaying friendly reinforcement.

Successful penetrations converge on Army objectives--and create confusion in communications zone.

CRITIQUE

"Heavying up" the front line, as suggested in the current operational method, cannot cover all avenues of approach into and through the main battle positions. Consequently, there will be gaps between some defensive positions. However, having the bulk of combat units forward means that there are no major reserves to respond to crises in these gaps.

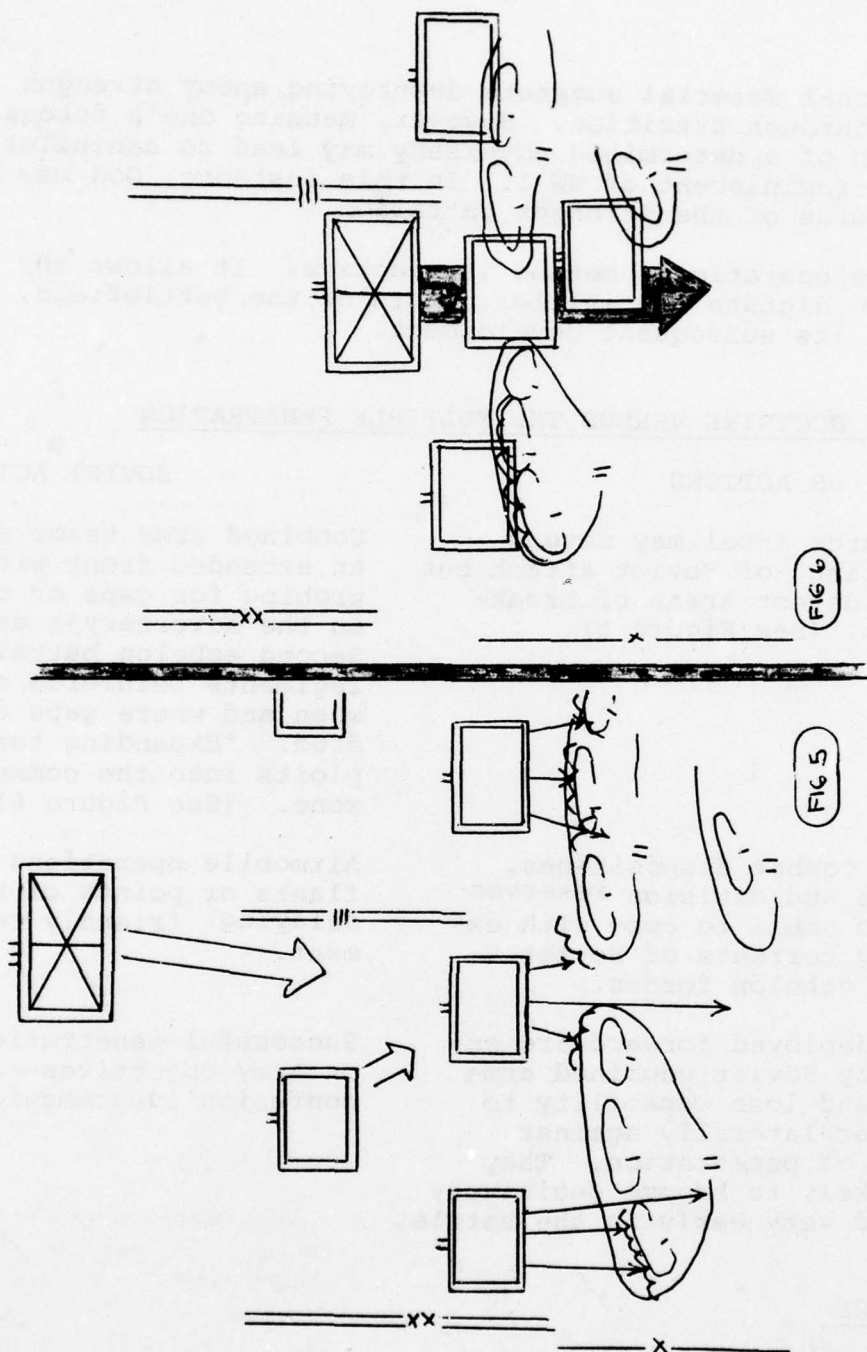


FIG 6

FIG 5

CURRENT DOCTRINE VS SOVIET MULTIPLE
PENETRATIONS

Points of Soviet main effort will not be known even to the Soviet commander until the gaps have been seized and battalion and regimental exploitation has begun. Allied intelligence sources may only be able to identify the size of enemy forces moving up to and through these gaps.

APPARENT WEAKNESSES IN CURRENT OPERATIONAL ART

Moving laterally behind the FEBA

- Units must make a flank march in the face of the enemy (Napoleon has written: "Nothing is more rash or more contrary to the principles of war than to make a flank march before an army in position--Maxim XXX").
- Units can be interdicted by artillery, attack helicopters, tacair while in movement, thereby disrupting the arrival times in the defense, this may easily unhinge the cohesion of the defense.
- Major lateral movements will be detected by enemy intel or units in contact, perhaps allowing Soviet commanders to adjust their scheme of maneuver.
- Even if this operation can be successfully executed, command and control problems will continue to exist, particularly if U.S. units enter an ally's sector.

Reinforcing the threatened sector is to play at attrition warfare.

- Warfare becomes positional on "key terrain" features.
- Mobility is only useful to shift "pillboxes".
- Attrition warfare plays into the enemy strategy and his larger field force.
- U.S. operational art is aimed at a known enemy strength rather than at known enemy weakness.

Focusing on and concentrating to defeat the first enemy echelon leaves gaps which can be exploited by second echelon regiments and divisions.

Opponent dictates the pace and unfolding of the battle-- U.S. operations are reactive. As long as the Soviets can operate within the parameters of their initial operations plan, their command and control problems are small. By being reactive to Soviet initiatives, U.S. C³ must be extensively and successfully used.

Soviets maintain the capability to shift from one type of strategic alternative to the other, albeit with some difficulty. A reactive defense cannot take this capability away from them. With current doctrine, U.S. forces cannot impose their will over the enemy.

GERMAN WW II OPERATIONAL SYSTEM

Beginning in late 1942 the Germans had to contend with both single and multiple penetrations. The major strategic problem was how to defend a broad front without dissipating their forces in tactical engagements. Operational reserves were necessary to conduct counterstrokes against the open flanks and rear of the enemy.

The Heinrici Method:

Heinrici's contribution to German operational methods was at the tactical/operational level. Essentially these operations consisted of stepping back several kilometers in the area of the Soviet main attack, rolling his forces toward the flanks so as to confine the width of the penetration, and then launching a counter attack into the enemy's flanks and rear. The bulk of German forces were committed forward (but echeloned in hedgehogs in the threatened area) while mobile reserves were ready to counter attack against the exposed Soviet flank.

The Manstein Method:

Manstein's contribution to German operational methods was at the operational/strategic level. Essentially Manstein faced multiple, large penetrations in areas defended by inferior forces. By shaping the battlefield with delaying units and tactics, Manstein was able to influence the direction and depth of each Soviet penetration. Then, after moving the bulk of his mobile forces to the flanks of a penetration, he would begin his counterstroke. Major units used concentric attacks against Soviet flanks, driving into their rear, to reduce one penetration after another. The key was to have the mobility and space to step back sufficient distances and thus stretch out the enemy before the counterstroke was launched.

HEINRICI VARIANT

GERMAN ACTIONS

All source intel to detect time, direction and intensity of main attack.

Units in contact step back from line of contact (under cover of darkness) and establish strong points 3 to 5 kilometers behind initial FEBA, allowing initial artillery and infantry blow to fall "on air". (Note: Guderian suggested "withdrawing" up to 25 km. Differences in distances must be understood in the mobility differentials between Heinrici's heavy units and Guderian's mobile units.)

Mobile strength filters to flanks as reserves are positioned on flanks to contain expansion and direct penetration. (See Figure 7)

Counterattack launched on flanks at strung out columns, destroying command centers, lines of communications and artillery. (See Figure 8)

Enemy first and second echelons lose cohesion--attack withers.

CRITIQUE

German success stemmed from "playing the flanks" while accepting some risks in the center. Rather than stand in the way of the Soviet main attack, the Germans gained leverage by using the mass and momentum of the Soviets against them.

SOVIET ACTIONS

When Army level "breakthrough" required, infantry, artillery and tanks are massed. Preparations are made to execute deliberate breakthrough operations.

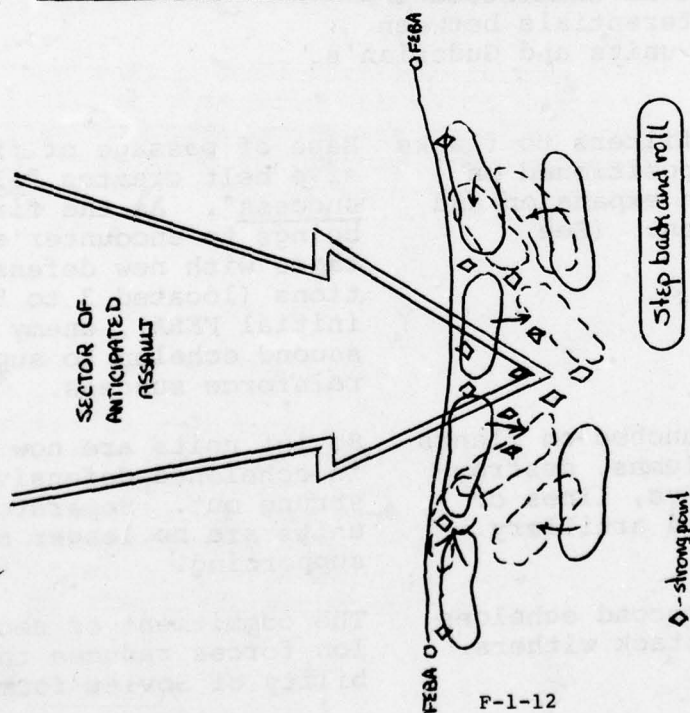
Major artillery barrages followed by infantry assaults.

When gaps are identified or created, then mobile forces are committed.

Ease of passage of first defensive belt creates "illusion of success". As the first echelon beings to encounter some resistance with new defensive positions (located 3 to 5 km behind initial FEBA), enemy commits second echelon to support and reinforce success.

Soviet units are now enmeshed in echeloned defensive belt and strung out. Separate Soviet units are no longer mutually supporting.

The commitment of second echelon forces reduces the flexibility of Soviet formations.



F-1-12

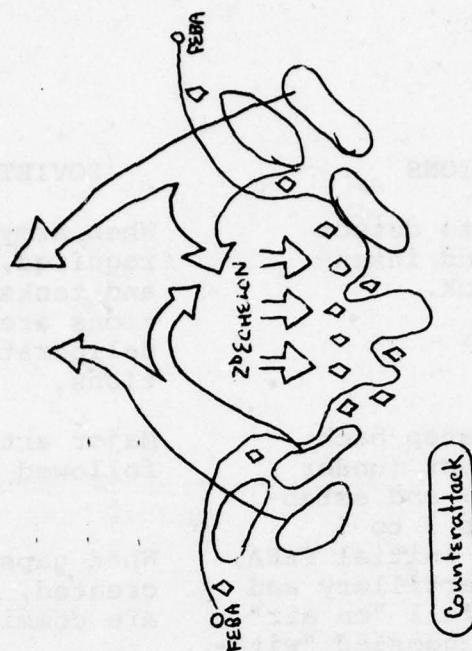


FIG 7

FIG 8

HEINRICI VARIANT VS. SOVIET BREAKTHROUGH WWII

The underlying concept was to direct and absorb the momentum of an attack, then enveloping the attacking force by flanking maneuvers.

Mobility was used to mass a striking force and not to reinforce a threatened sector. Shock action gained through massive and fast moving operation confused and psychologically overpowered the adversary, defeating most enemy units piecemeal.

A significant mobility differential was gained through superior command, control and communications, a well thought out and commonly understood operational doctrine and well trained troops who had the audacity to strike for the opponent's jugular.

Battle positions were used to shape an opponent's images of the unfolding combat situation--creating false images which presented an incomplete or incorrect picture of the battlefield. As the enemy commander attempted to respond to these images, he found that his actions did not produce the results intended. He began to lose control of the events, the troops began to lose their faith, and the collective will of the organization faltered.

MANSTEIN VARIANT

GERMAN ACTIONS

Units under major attacks conduct light delays upto 15 to 25 km from initial FEBA, taking initial impact of massive artillery, tank and infantry assaults with light screening forces. Then, depending on direction of strategic counterstroke, units begin to resist in sector; units are stacked to provide depth to defense.

Major delay forces, using switch lines and blocking positions, are deployed to protect specific terrain features and to prevent the various penetrations from merging.

Defensive positions are structured to allow penetrations to run to

SOVIET ACTIONS

Soviets would mass several Armies to conduct multiple penetrations of German lines in one major sector (e.g., see the Soviet attack toward Kharkov in February 1943).

The apparent "initial success" would create favorable indicators for committing second echelon divisions and separate tank brigades and tank corps.

Additional Front reserves would be committed behind the most favorable successes.

By the time most Soviet units became entangled in German

pre-determined widths and depths (see Figure 9).

stacked and echeloned defensive positions they were beginning to outrun their artillery and logistics.

Initial counterstroke is from open flank and interior defensive positions and switchlines. Generally, shallowest penetration is eliminated first (see Figure 10).

On initiation of German counterstroke most Soviet units were too entangled to deploy against threat and found extreme difficulty in reorienting large combat units 90° from their line of attack.

As counterstroke moves against second penetration the blocking units and units defending in the initial sector are freed up to support the continuation of the counterstroke.

Successful result was major Soviet combat forces cutoff from relief. Territory initially surrendered was retaken; in point of fact, usually more territory was taken.

CRITIQUE

German mobile defensive operations (whether tactical, operational, or strategic) in WW II suggest that there are few terrain features which are "key" or critical. Critical terrain generally was a sector which was necessary to hold (in some part) to gain leverage when applying the counterstroke; basically, this terrain provided leverage. It was eventually defended by a hedgehog or a final switchline.

German operations were hampered by Hitler who had a linear concept of war. Mobile operations, to be successful, must be oriented on the depth and fluidity of the battlefield.

Success on the defense was found in playing the flanks and counter-thrusting across the base of the penetration. However, in actual practice the counterthrust was more of a "hook"; that is, it was driven across the original FEBA and then "hooked" back into the penetration. To attack into the flank base of the penetration was to run into the strength of the flank security force.

DEFEAT MECHANISM

Defeat mechanisms are the strategies that a commander may select when he engages the enemy in combat. There are two principle defeat mechanisms that the operational commander might select.

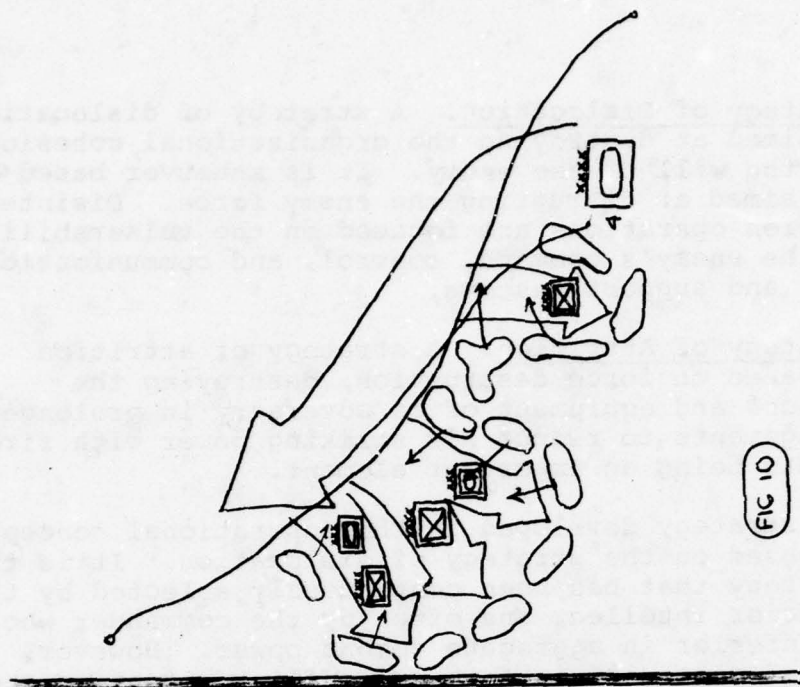


FIG 10

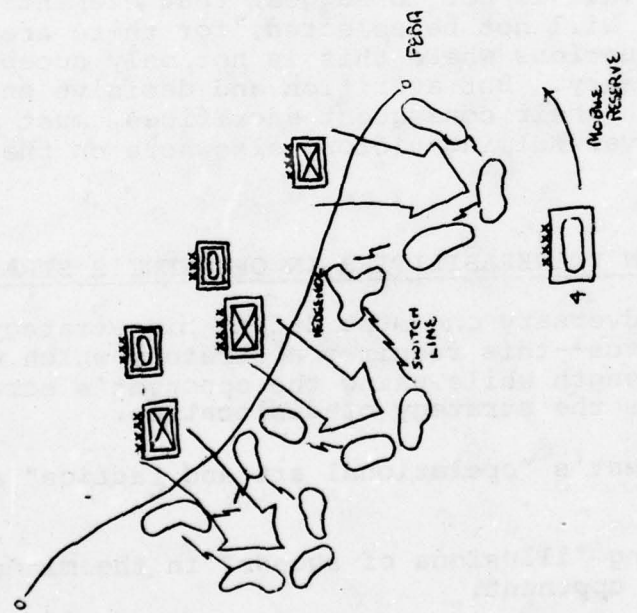


FIG 9

MANSTEIN VARIANT VS. SOVIET MULTIPLE PENETRATION

- Strategy of Dislocation. A strategy of dislocation is aimed at destroying the organizational cohesion and the will of the enemy. It is maneuver based on and aimed at disrupting the enemy force. Disintegration operations are focused on the vulnerabilities of the enemy's command, control, and communications (C3) and support systems.
- Strategy of Attrition. A strategy of attrition is based on force destruction, destroying the weapons and equipment of an adversary in prolonged engagements to reduce his striking power with fire fights being an important element.
- The strategy developed in this operational concept is based on the strategy of dislocation. It is the strategy that has been continuously selected by the superior intellect and often by the commander who is inferior in aggregate combat power. However, the elements obtain for any conflict situation and form the basis for the underlying concepts developed herein. This is not to suggest that elements of attrition will not be selected, for there are tactical situations where this is not only acceptable but necessary. But attrition and decisive engagement, with their consequent sacrifices, must be used to gain overwhelming victory elsewhere on the battlefield.

ORIENT OPERATIONS ON VULNERABILITIES IN OPPONENT'S STRATEGY

To defeat an adversary one must defeat his strategy or strategic alternatives--this requires a strategy which maximizes one's own strength while using the opponent's strength against him. This is the strategy of dislocation.

- Use opponent's "operational art and tactics" against him by:
 - Creating "illusions of success" in the mindset of the opponent.
 - Strategy must insure that the adversary's images are wrong--that the nature of the battle is not comprehended by the decision structure of the opponent. Deception and ambiguity are key.

- This creates confusion when adversary cannot react to unknown or unexpected situations.
- Disapates effort as opponent attempts to react to an uncertain situation.
- Forces psychological breakdown as expectations do not equate with reality. Insures command paralysis!
- Applying firepower and movement to generate shock action at the decisive time and place to insure confusion.
- This means accepting reasonable risks in one area so as to concentrate strength, speed and firepower in other areas which support one's own operation.
- Attacking against weakness, not strength.
- IDEA: Develop an operational method that attacks an adversary's weakness by using combat operations, executed at proper time and in the proper place and sequence, to shape images of the battlefield establishing conditions for counterattacks/counterstrokes against the enemy's weakness.

OPERATIONAL METHOD

The use of engagements is a method of shaping an adversary's images of the battlefield, while allowing a concentration of combat power at the decisive time and place since it allows the defending commander to dictate the unfolding of the battle. In this case the covering forces shape the battlefield--staging the arrival and location of enemy units on the battlefield in time, space, and proper sequence. Major engagements are structured to annihilate portions of enemy formations such that conditions for tactical counterattacks and/or strategic counterstrokes are developed.

- These operations should paralyze the enemy command, allowing a smaller force to defeat a larger force which cannot react in time to prevent failure.
- This is the lesson of the blitzkrieg.
- This is also the lesson of guerrilla war--only the pace is faster.

- Command paralysis of an adversary is the great equalizer. Firepower is not the great equalizer unless applied at the decisive time and place-- which only mobility and a well developed doctrine can provide.

OPERATIONAL METHODS--CHART II

The Counterstroke

As enemy forces are drawn into the various and sequential engagements (and fire fights) his strength is reduced such that forces withheld for main effort can counterstrike at favorable odds, taking the battle into the enemy's exposed rear.

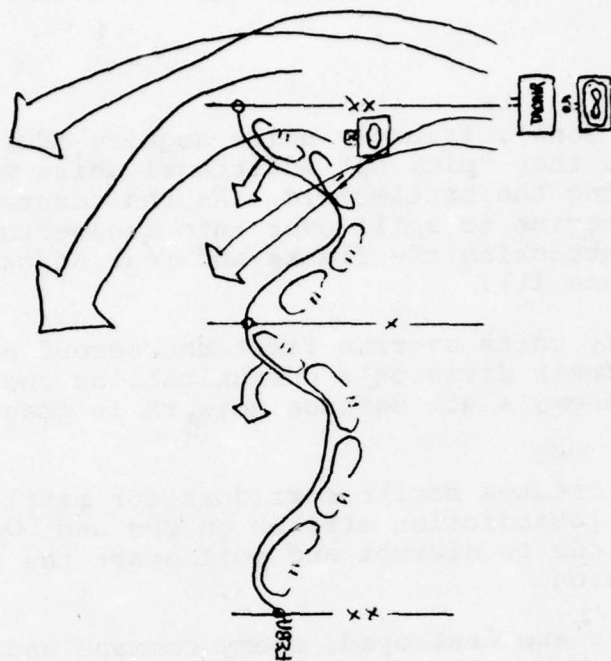
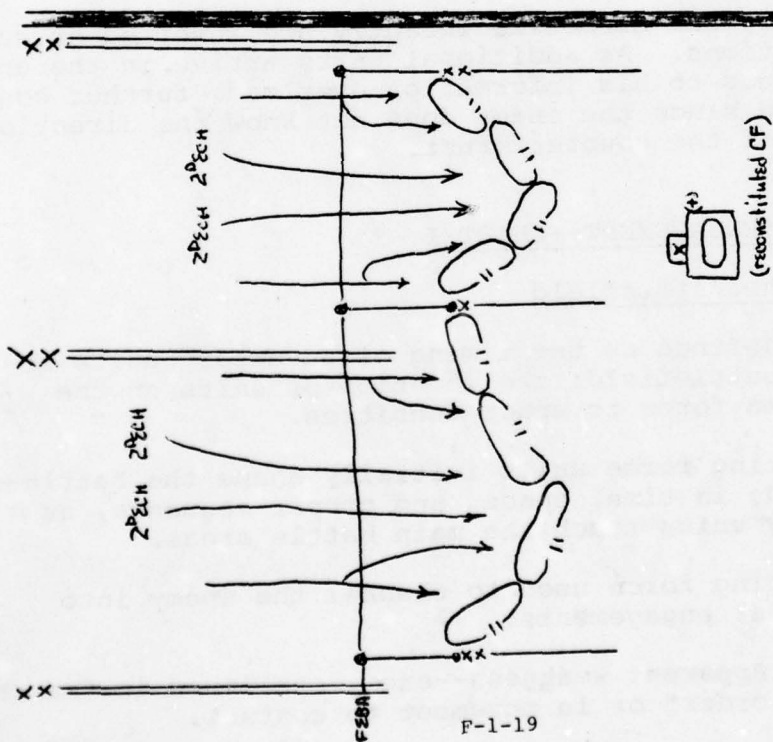
- Enemy forces in the engagements are confused as to the situation; enemy forces are arrayed in tactical deployments oriented such that their flanks are exposed to the counterthrust.
- Tactical and operational disorientation occurs in the minds of opposing commanders. They are unable to react quickly enough to the changing situation.
- Enemy forces are committed and under fire such that they cannot disengage and reorient to face the developing threat, even if it becomes comprehensible.

Upon lifting of tacair and shifting of artillery, friendly ground based and airborne (heliborne) ECM assets are turned on to jam regimental and divisional command and fire support nets.

- Remaining cohesion is broken down.
- Enemy units not committed cannot gain an understanding of the unfolding battle.
- Enemy artillery is neutralized. It cannot support units as they attempt to react.

Enemy units are attacked and destroyed singly; mutual support from adjacent units and artillery is compromised, forcing enemy into fighting piecemeal battles against concentrated friendly forces (see Figure 11).

As counterthrust moves laterally in front of the FEBA (although major reserves exploit deep into the enemy's



OPERATIONAL METHOD

FIG. 11

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communications zone), friendly units acquire additional combat power as they "pick up" additional units which were initially shaping the battlefield. As the counterthrust continues, it begins to spill over into the sector of adjacent units--attacking the flanks and rear of other enemy units (see Figure 11).

As friendly units overrun first and second echelon regiments and their division's communications and support elements, the enemy's air defense network is fragmented or destroyed.

- This creates strike corridors for battlefield and deep interdiction strikes on CPs and LOCs that continue to disrupt and pull apart the enemy's cohesion.
- As CPs are destroyed, enemy command and control is further paralyzed.

Air Cavalry and airmobile infantry are inserted on suspected CP locations. As additional units arrive in the enemy's rear area it adds to his information overload; further confusion is created since the enemy does not know the direction or objectives of the counterthrust.

TACTICS OF THE ENGAGEMENT--CHART I

Shaping the Battlefield

SHAPE is defined as the timing of adversary units arriving on the battlefield; the location of units on the battlefield, and force to space densities.

- Covering force units initially shape the battlefield, in time, space, and proper sequence, as enemy units reach the main battle areas.
- Covering force used to channel the enemy into initial engagements.
 - Apparent weakness--enemy continues in "march order" or in movement to contact.
 - Apparent strength--enemy maneuvers to bypass.
 - Suggests to enemy commander his commitment of second echelon to "apparent weakness".

- TOW/Tank teams fire on enemy advanced guard forcing deployment. Enemy second echelon companies execute "maneuver/meeting engagement" sequence--maneuvering to "weakness" into established KILLING ZONES. Alternatively, these units can withhold fire until advanced guard can be destroyed in front of initial battle positions, again forcing elements of lead battalion to deploy in accordance with enemy maneuver tactics--since maneuver is executed against "weakness" battalion ends up in killing zone (see Figure 12).
- Artillery Support--firepower is used to assist in shaping the battlefield or in disrupting assault and follow-on echelons.
 - ICMs--disrupt timing of follow-on attack and the organization of assault echelons.
 - ICMs--also fired into the killing zone where enemy's combat densities are the greatest.
 - FASCAMs--delays enemy and/or forces maneuver

TACTICS OF THE ENGAGEMENTS--CHART II

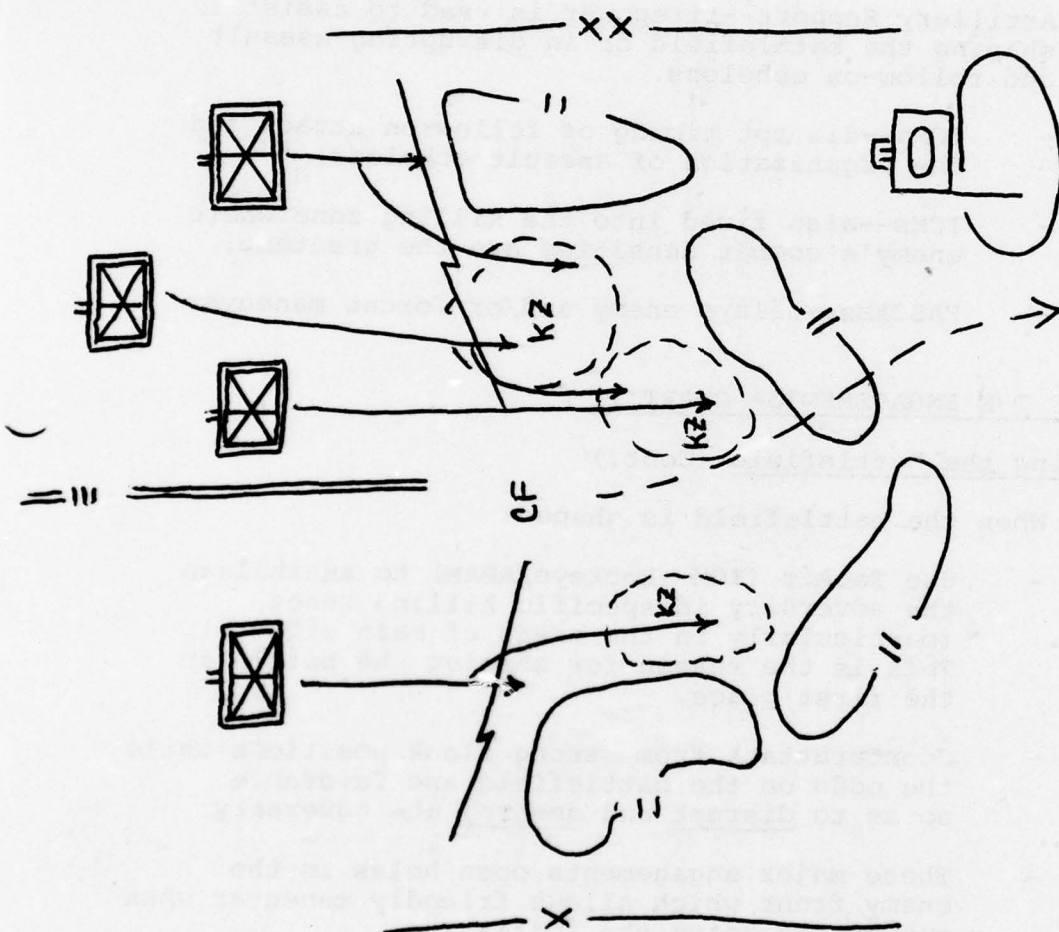
Shaping the Battlefield (Cont.)

- When the battlefield is shaped:
 - Use TacAir (ICM--Rockeye/APAM) to annihilate the adversary in specific killing zones (particularly in the areas of main efforts). This is the reason for shaping the battle in the first place.
 - Counterattack from strong flank positions while the odds on the battlefield are favorable so as to disrupt and destroy the adversary.
 - These major engagements open holes in the enemy front which allows friendly maneuver when commanders seize the initiative.
 - Units may attack laterally or hook into flank to arrive on the rear of adjacent units in contact (a form of concentric attack), destroying the enemy before they have time to disengage.

USE W/ FIG 13

ENGAGEMENT TACTICS: BATTLEFIELD SHAPING

FIG 12



- Other units attack deep into the enemy's rear area disrupting or destroying CPs and LOCs--creating confusion in the enemy's rear. The time table for the commitment of second echelon forces is disrupted, allowing additional encirclement front line enemy units.

TACTICS OF THE ENGAGEMENT--CHART III

The Counterattack

As enemy forces are drawn into the major engagement his strength is reduced, establishing conditions that reserve forces can counterattack at favorable odds, taking the battle to the enemy.

- Enemy forces are confused as to the situation; enemy forces are arrayed in tactical deployments such that their flanks are exposed to the counter-attacking force.
- Enemy forces are committed and under fire such that they cannot react nor reorient to face the developing threat.
- Tactical and operational disorientation occurs in the minds of the enemy commander.

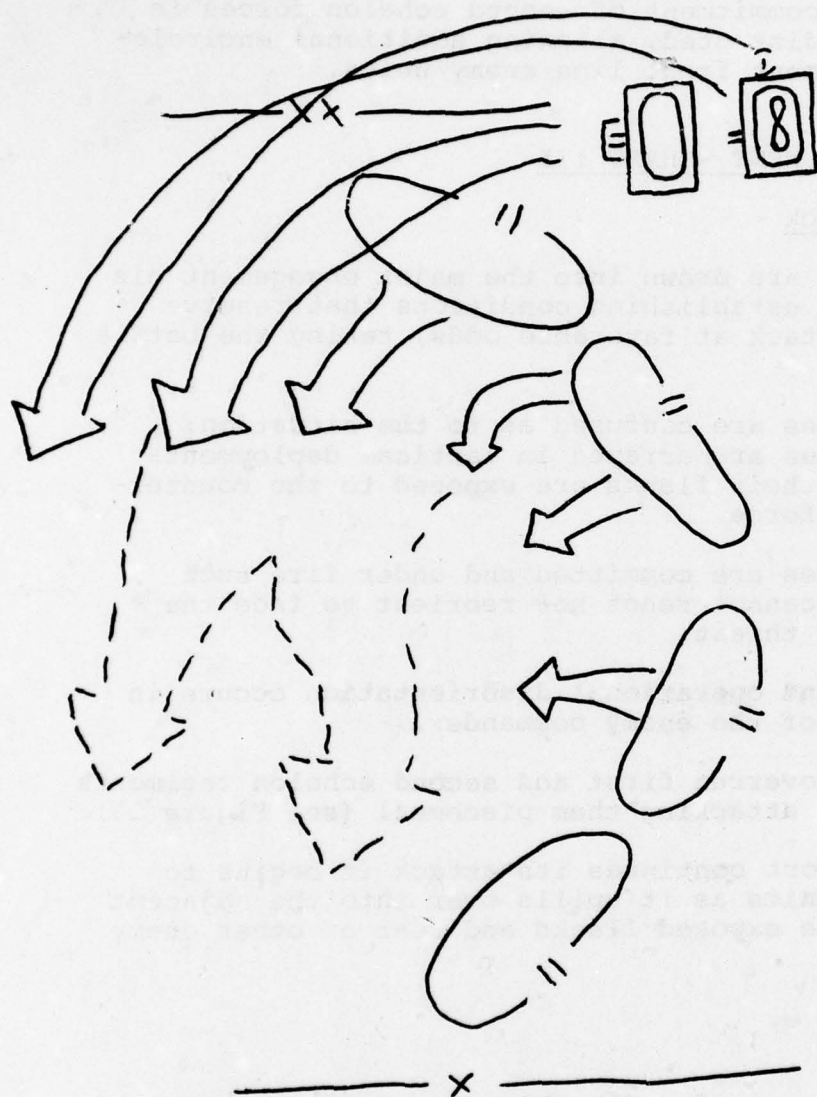
Friendly units overrun first and second echelon regiments in the killing zone, attacking them piecemeal (see Figure 13).

As the main effort continues its attack it begins to pick up additional units as it spills over into the adjacent sector, attacking the exposed flanks and rear of other enemy units.

SUMMARY

To defeat a determined and sophisticated adversary it is necessary to defeat his strategy. The key to success is the retention of the initiative and the imposition of one's own will over the enemy. Success requires the maximization of one's own strength against the adversary's weakness in time and space.

Command paralysis of the enemy is the central aim of all engagements and battles. This is accomplished by gaining battlefield leverage on enemy flanks (created by shaping



ENGAGEMENT TACTICS
COUNTERATTACK

FIG 13

the battlefield), striking around or through these flanks at the enemy's command and control, combat support, and combat service support. As operations proceed into the enemy's rear his plans are unhinged and invalidated. His C³ systems become overloaded in his attempts to improvise (all are known weaknesses) in responding to our actions.

Operations must be directed at the opponent's jugular and executed by well trained troops. The operational essence of mobile warfare is in its shock action and disruption of the enemy's mindset. Rapid operations are designed to confuse and psychologically overpower the adversary.

Offensive and defensive actions are used to shape the adversary's perceptions of the unfolding situation--creating information that represents an incomplete or incorrect picture of the battlefield. As the enemy commander attempts to respond to the "disinformation" he will discover that his actions do not produce the intended results--his actions become incorrect in time, space, and sequence. Further corrective actions, which are again based on faulty information, only deepen his confusion. He begins to lose control of events such that the will and cohesion of his organization is destroyed. As cohesion is destroyed, the enemy's combat and support organizations can be defeated piecemeal by a determined and concentrated force.

Victory is not achieved by successful duels along the forward edge of the battle area (FEBA), but by the destruction of the enemy's control and support echelons. Successful duels only facilitate the application of our own operational methods.

The maxim for successful engagements and battles is to seek the enemy's flank, then to drive on the enemy's rear--sowing confusion, cutting the enemy's lines of communication, forcing him to fight piecemeal and on reversed fronts.

ANNEX F-2

DIVISION MOBILE OPERATIONS BATTLE BOOK

APPENDIX 1

DIVISION MOBILE OPERATIONS
BATTLE BOOK

COMMANDER'S BATTLE BOOK: OPERATIONS

-- Maxims

- I. Command and Control of Operations
- II. Operational Concepts
- III. Operational Methods

MAXIMS OF WAR

The art of war consists of projecting into action at the decisive point and time the greatest possible force. The choice of the line of operations is the principle means of attaining this end and may be regarded as the fundamental concept in a good plan of operations. The selection of the line of operations is the single most important decision made by the commander. The selection of an inferior line of operations is difficult to redeem as the operation unfolds, particularly at the higher operational and strategic levels of command.

While the location and direction given to the line of operations depends upon the terrain, it depends more upon the enemy's position and his intentions. As the situation unfolds the tactical and operational commanders may shift the line of operations to exploit enemy mistakes and weaknesses.

In every case the focus of main effort of an operation must be directed upon the center (penetration) or upon one of the wings (envelopment) of the enemy. It would be a fatal error to act upon the center and the two wings at the same time (frontal attack).

Upon smashing the center or flank, operations must be directed at rolling out across the enemy's line of advance while also striking for his nerve centers with the intention of shattering his organizational integrity and cohesion.

Through rapid operations and exploitation, the commander must throw the mass of his force upon the decisive objectives--particularly upon the enemy's lines of communication, paralyzing the enemy, forcing the adversary to fight on a reversed front while disrupting his operations and cohesion.

Maneuver to engage a fraction of the opposing force with the bulk of one's own force. Always be stronger at the decisive place.

Arrange that these operations are conducted at the proper times and places, but also in the proper sequence.

I. COMMAND AND CONTROL OF OPERATIONS

- A. The Commander
- B. Combat Information and Intelligence
- C. Terrain and Weather
- D. Elements of Combat
- E. Communications, Cooperation, and Coordination
- F. Uncertainty and the Fog of War
- G. Principles of War

A. The Commander

1. The will of the commander and his men is met by the independent will of the enemy.
2. The commander is responsible for the accomplishment of his mission. To be successful he must:
 - think ahead;
 - gain and retain the initiative;
 - operate well forward to judge the pulse and tempo of operations, while not losing touch with the "big picture".
3. The commander acts with resolve and resolution.
 - a. The commander who merely waits for orders cannot exploit opportunities.
 - b. The commander must act within the mission guidance of higher headquarters. However, the commander is enjoined to use his judgment in responding to changing situations, and he must not blindly follow orders. When a situation arises which offers unexpected advantages over the enemy, it must be considered the duty of the commander to exceed the scope of his combat mission. The subordinate commander must immediately inform his higher headquarters of his decision.
4. All commanders must master common operational concepts and the elements of combat so as to act in consonance with and in mutual support of higher, adjacent, and lower headquarters.
5. The commander expresses his intentions unmistakably in his decisions.
6. During combat, the commander must be at the most decisive place.
7. The commander must know the enemy's organization, the enemy's operational methods and tactical techniques, and the enemy's current intentions and capabilities so as to exploit the enemy's known vulnerabilities.
8. The combat value of every unit depends on the moral quality of its leaders as much as their

competence. The commander must share the success and suffer the privations of his men.

9. During critical junctures in combat, the commander may have to sacrifice entire combat units through continuous, decisive combat in order to gain time and leverage elsewhere.

B. Combat Information and Intelligence

1. Combat information is acquired by units in contact. It is immediately usable by the higher commander in judging the tempo and course of combat.
2. Intelligence is the product resulting from the collection, evaluation, analysis, and interpretation of all information or indications that concern enemy capabilities, intentions, and organization.
3. Combat information and intelligence must continually provide the commander current and projected enemy intentions, deployments, and vulnerabilities, including those vulnerabilities that result from factors of time and distance.
4. The commander must continually place himself in the mind of the enemy commander and then visualize the unfolding of events.
5. The commander must take calculated risks, basing his decisions on the most probable assumption of enemy actions or intentions.
6. The commander must continuously seek information and intelligence to refine his estimates and to follow the unfolding of the engagement or battle. In this regard, the commander needs both immediate combat information and intelligence and longer term intelligence. The commander must task the following sources with priorities as to long or short term requirements:

a. Intelligence

-- Signal Intelligence

- Organization and deployment of enemy forces on the ground.
 - Command Posts and Signal Centers
 - Artillery and Engineer
 - Combat service support element
- Possible intentions
- Reinforcements

-- Photographic Intelligence

- Organization and deployment of enemy forces on the ground
 - Second echelon divisions and armies
 - Lines of communication
- Possible Intentions

-- Human Intelligence

b. Combat Information

- Units in contact.
- Artillery concentrations
- Mission reports and "spot reports" from tacair and helicopters.

C. Terrain and Weather

NOTE: Appropriate material for unique areas would be placed here.

D. Elements of Combat

1. General Concepts

- a. Combat is an encounter between armed adversaries who conduct combat operations for the sole purpose of enforcing their intentions.
- b. Combat has the specific purpose of imposing one's will over the enemy. This is achieved by destruction of the enemy or by the threat of destruction if he continues to resist.
- c. Combat operations should always be aimed at decisive objectives. To the extent possible, multiple objectives should be sought to add to the ambiguity of the enemy's appraisal of the situation.
- d. Combat success demands coordinated efforts aimed at common objectives. Coordination must be implicit, derived from the commander's guidance, when communications are disrupted.
- e. Combat has specific characteristics:
 - Modern combat is lethal, and consumes vast quantities of materiel and personnel. Support must be continually available. Force generation and reorganization is continuously necessary.
 - Modern combat is mobile. Unoccupied areas, gaps, and exposed flanks are usual characteristics of modern, mobile combat as are close engagements. Encirclements and combat in the rear of friendly as well as enemy forces should be expected.
 - Modern combat is characterized by rapidly changing situations resulting from mobility and firepower; thus, the situation usually remains ambiguous and uncertain. Commanders must continuously take the initiative to develop and control the situation by any combination of reconnaissance, fire, and maneuver.

2. Combat operations are composed of several inter-related elements.

- a. Duels--combat between elements and units of combat forces, from individual weapon versus individual weapon through company and battalion level combat. The essence of duels is firepower and is dominated by terrain. Favorable attrition through combat actions is the principle means, the ambush is a useful technique.
- b. Engagements--the management of duels in time, space, and proper sequence to establish conditions for further favorable action. Engagements are associated with battalions and brigades and are terrain and maneuver dominant. Engagements are a means toward a higher end.
- c. Battles--the management of engagements in time, space, and proper sequence to implement the selected defeat mechanism against the enemy. Battles are associated with divisions and corps and are dominated only by concerns of maneuver.

3. Tactical Doctrine

- a. Operational Art is the use of engagements to secure the objectives of the battle. Operational Art establishes the predominant defeat mechanism and the philosophy underlying the aim of the battle.
- b. Tactics are the use of armed forces in engagements; tactics places operational art on the terrain within the parameters of mission, enemy forces, and friendly troops available.

4. Defeat Mechanisms

Defeat mechanisms are the strategies that a commander may select when he engages the enemy in combat. There are two principle defeat mechanisms that the operational commander might select.

- a. Strategy of Dislocation. A strategy of dislocation is aimed at disrupting the organizational cohesion and the will of the enemy. It is maneuver based; operations are aimed at the vulnerabilities of the enemy's command, control, and communications (C³) and support systems.

- b. Strategy of Attrition. A strategy of attrition is based on force destruction; destroying the weapons and equipment of an adversary in prolonged engagements to weaken his striking power to establish a balance of forces. Duels and fire fights are important elements. A strategy of attrition is dominated by weapons and favorable terrain.
- c. The strategy developed in this operational concept is based on the strategy of dislocation. It is the strategy that has been continuously selected by the superior intellect and often by the commander who is inferior in aggregate combat power. However, the elements obtain for any conflict situation and form the basis for the underlying concepts developed herein. This is not to suggest that elements of attrition will not be selected, for there are tactical situations where this is not only acceptable but necessary. But attrition and decisive engagement, with their consequent sacrifices, must be used only to gain overwhelming victory elsewhere on the battlefield.

5. Operational Methods

There are two general forms of operational methods that may be selected, either concurrently or sequentially, by the operational commander.

- a. Defense. The defense is the stronger form of combat since the defender has the advantages of terrain in the selection of the area of battle and in the detailed preparation of the defensive positions and battle plans. However, defense has a negative purpose since it is reactive to enemy intentions. A defense is conducted to gain time, to destroy the enemy or reduce his capability for further offensive action, or to economize force. The defense continuously seeks to develop conditions for a decisive counterstroke and the resumption of the offensive. The commander must regain the initiative by successful defensive combat.

Defensive operations will be so arranged in time, space, and proper sequence to shape the

battlefield, developing exposed enemy flanks, so as to allow vigorous flank attacks that are followed by rapid exploitation into the enemy's rear. Enemy vulnerabilities and weaknesses must be exploited.

There are two general forms of defense:

- Area Defense. This form of defense is based on defending and retaining specific terrain that supports the operational plan. Decisive engagement is often expected. Area defense is selected to develop the shape of the battlefield. Movement within and between battle positions may be tolerated.
- Mobile Defense. This form of defense is based on maneuver and vigorous counteractions to destroy the cohesion of the enemy's organization. Various combat methods--covering, defensive, and offensive operations--are used sequentially or concurrently to disrupt the enemy's attack, destroy or isolate him on the battlefield, and then pursue him to his disintegration and destruction. Decisive engagement is at the discretion of the operational commander, usually in the area where the counterstroke is directed.

- b. Offense. The offense, while being the weaker form of combat, gains success beyond its cost when the enemy is defeated on the battlefield and then is pursued to his complete disintegration. Offense develops the initiative. Success must be exploited to retain the initiative. Offensive operations must be directed against the enemy's command, control, and communications systems and his support systems severing the link between his brain and his body. The offense presents the commander with combinations of surprise, mass, maneuver, and objective against the enemy. Offensive operations yield the only hope of imposing one's will on the enemy.

There are two general forms of offense:

- Penetrations. Penetration operations are conducted when there is no assailable

flank for the attacking force to exploit. Penetrations must be narrow in width and of sufficient depth to maintain strong combat power and freedom of action and maneuver through the depth of the enemy's rear. Successful penetrations require concentrated forces which can suppress or destroy enemy forces in the area of influence, can generate a violent execution in rupturing the enemy's defense, and can pursue a vigorous exploitation into the enemy's rear.

- Envelopments. Envelopments are launched when there is an assailable enemy flank (often created by shaping the battlefield) around which forces can maneuver. Envelopment is the preferred form.

Either type of operation requires that enemy forces be overrun or by-passed such that momentum is not lost--seek the enemy's rear.

6. Surprise and Deception

- a. Operational Success can be achieved with limited resources when use is made of surprise by striking:
 - in an unexpected place;
 - at an unexpected time;
 - in an unexpected way (e.g., by setting up conditions for a counterstroke and then striking with such rapidity that the enemy cannot react in time).
- b. Deception is designed to give the enemy an incorrect picture of the battlefield situation and our own intentions. Deception and shaping of the battlefield must be designed to mislead the enemy into taking wrong kinds of action, at the wrong times, and in the wrong places.
- c. Surprise and deception will only be successful if our intentions and capabilities are kept secure. Secrecy and security must be practiced by every element in the force.
- d. Operations must be structured so that the enemy, even if he receives sufficient combat information, continues to perceive things incorrectly.

E. Communications, Cooperation, and Coordination

1. The decision of the commander regulates the mission, the point of main effort, maneuver, and the employment of reserves. The decision must include the elements of coordination and control between elements of the command.
2. Higher headquarters must continuously pass combat information and intelligence to their lower headquarters to assist forward commanders in their estimate of the situation. At lower headquarters both intelligence and combat information can be more quickly synthesized with the lower commanders evaluation of the existing situation.
3. Commanders on the spot are expected to make many of the combat decisions as opportunities present themselves. This requires that subordinate commanders inform their higher headquarters of decisions they have undertaken or are about to take.
4. Higher commanders have the right to "veto" lower level decisions when the situation dictates--that is, when either the mission has changed, when the focus of main effort has changed, or when new intelligence or information would place the lower commander in jeopardy.
5. Higher commanders must continually place themselves at the decisive place, near the main effort so as to reduce communications time and to reduce misunderstandings.
6. All commanders must insure themselves of timely, secure, and redundant two-way communications links.
7. All commanders must understand the common coordination and control principles that obtain for an operation. Common understanding of coordination measures and the intentions of higher commanders are the minimum essential elements for successful, effective operations.

F. Uncertainty and the Fog of War

1. Uncertainty concerning the existing battlefield situation creates a Fog of War that all commanders, friendly or enemy, must operate in and work against. The superior commander can exploit the fog of war to create favorable conditions for decisive action.

The commander must continuously seek to reduce his own uncertainty by communications, by operating within shared operational and tactical concepts, by simplifying operations plans, and by superior training. Concurrently, he seeks to add to the enemy's uncertainty by taking the initiative, by being unpredictable, and by undertaking rapid operations that continue to place the enemy in the fog of war.

2. Uncertainty will continue to exist on the battlefield in spite of sophisticated communications systems and intelligence sensors. This results from the high degree of mobility and the lethality of the modern battlefield coupled with techniques of surprise and deception. Consequently, all commanders must face the uncertainty of modern combat. He who can exploit this uncertainty has an additional ally on the battlefield.
3. Operations and decisions must be directed toward reducing the uncertainty facing friendly commanders while, at the same time, increasing the enemy's uncertainty of the situation.

G. Principles of War

1. Principle of the Objective

Every military operation must be directed toward a clearly defined, decisive, and attainable objective. The ultimate military objective of war is the defeat of the enemy's armed forces. The objective of each operation must contribute to the ultimate objective. Each intermediate objective must be such that its attainment will most directly, quickly, and economically contribute to the purpose of the operation. The selection of an objective is based on consideration of the mission, the means available, the enemy, and the operational area. Every commander must understand and clearly define his objective and consider each contemplated action in light thereof.

2. Principle of the Offensive

Offensive action is necessary to achieve decisive results and to maintain freedom of action. It permits the commander to exercise initiative and impose his will on the enemy, to set the pace and determine the course of battle, to exploit enemy weaknesses and rapidly changing situations, and to meet unexpected developments. The defensive may be forced on the commander, but it should be deliberately adopted only as a temporary expedient while awaiting an opportunity for offensive action or for the purpose of economizing forces on a front where a decision is not sought. Even on the defensive, the commander seeks every opportunity to seize the initiative and achieve decisive results by offensive action.

3. Principles of Mass

Superior combat power must be concentrated at the critical time and place for a decisive purpose. Superiority results from the proper combination of the elements of combat power. Proper application of the principle of mass, in conjunction with the other principles of war, may permit numerically inferior forces to achieve decisive combat superiority.

4. Principle of Economy of Force

Minimum essential means must be employed at points other than that of the main effort. This principle is the reciprocal of the principle of mass. Economy of force does not imply husbanding, but the measured allocation of available combat power to the primary task as well as to supporting tasks, such as limited attacks, defense, cover and deception, or even retrograde action, to insure sufficient combat power at the point of decision.

5. Principle of Maneuver

Maneuver is an essential ingredient of combat power. It contributes materially in exploiting successes and in preserving freedom of action and reducing vulnerability. The object of maneuver is to dispose a force in a manner that places the enemy at a relative disadvantage and thus achieves results that would otherwise be more costly in men and materiel. Successful maneuver requires flexibility in organization, combat service support, and command and control. It is the antithesis of permanence of location and implies avoidance of stereotyped patterns of operation.

6. Principle of Unity of Command

The decisive application of full combat power requires unity of command. Unity of command obtains unity of effort by the coordinated action of all forces toward a common goal. While coordination may be attained by cooperation, it is best achieved by vesting a single commander with the requisite authority.

7. Principle of Security

Security is essential to the preservation of combat power. Security results from the measures taken by a command to protect itself from espionage, observation, sabotage, annoyance, or surprise. It is a condition that results from the establishment and maintenance of protective measures that insure a state of inviolability from hostile acts or influences. Since risk is inherent in war, application of the principle of security does not imply undue caution and the avoidance of calculated risk. Security frequently is enhanced by

bold seizure and retention of the initiative, which reduces the enemy's capability to interfere.

8. Principle of Surprise

Surprise can decisively shift the balance of combat power. By surprise, success out of proportion to the effort expended may be obtained. Surprise results from striking an enemy at a time and place and in a manner for which he is unprepared. It is not essential that the enemy be taken unaware, but only that he becomes aware too late to react effectively. Factors contributing to surprise include speed, cover and deception, application of unexpected combat power, effective intelligence and counterintelligence (to include communications and electronic security) and variations in tactics and methods of operation.

9. Principle of Simplicity

Simplicity contributes to successful operations. Direct, simple plans and clear, concise orders reduce misunderstanding and confusion. Other factors being equal, the simplest plan is preferred.

II. OPERATIONAL CONCEPTS

- A. General Considerations
- B. Tactical Concepts
- C. Operational Concepts
- D. Organizing for Combat

A. General Considerations

1. Tactics

Tactics serves as the linkage between duels--the elements of an engagement--and the aims of the engagement.

Tactics places operational art on the battlefield within the parameters of the mission, the enemy situation, the terrain, and the friendly troops available (METT).

All tactical commanders must continuously strive to retain freedom of action. Every advantage over the enemy increases one's own freedom of action while restricting that of the enemy.

2. Operational Methods

Operational methods serve as the linkage between engagements--the elements of a battle--and the aims of the battle. Operational methods implement the concepts of Operational Art.

Operational methods incorporate the essence of the defeat mechanism in the planning, execution, and exploitation of engagements in time, space, and proper sequence.

Operational methods provide the essential elements for the command, coordination, and cooperation of military forces in combat.

3. Operational Art

Operational art is the body of theory that establishes the predominant defeat mechanism to be employed against the enemy and the concepts and methods used in applying the defeat mechanism to the battle.

Operational art focuses upon the exploitation of enemy weaknesses and vulnerabilities. Consequently, it orients on enemy operational methods and tactical techniques, on enemy combat and support organizations, and on the enemy's methods and techniques of command, control, and communications.

Operational art structures friendly forces and establishes operational methods and tactical techniques necessary to exploit enemy vulnerabilities and to implement the defeat mechanism.

B. Tactical Concepts

1. These tactical concepts constitute a prerequisite for the effective cooperation of all forces in combat, even when the exercise of command is temporarily disrupted. The mission assigned will govern the thinking and actions of subordinate commanders; consequently, all subordinate commanders must understand and appreciate the mission and intentions of their higher headquarters (at least two echelons above their own). Assignment of missions will allow as much freedom of action as possible.
2. Coordinated fire and movement are the main elements of tactical combat and battle drill. The ability to fire and to move must be maintained by every combat element.
 - a. Fire: firepower is used to inflict losses on the enemy, disrupt his organizational cohesion, slow his momentum, and pin him to the ground.
 - b. Movement: changes in position and deployment designed to bring forces into a position where they will be superior to the enemy.
 - c. Thrust: the combat impact of a force derived from the ability to coordinate fire and movement in combat.
 - Fire-Thrust: principally an attack by firepower where movement is used to bring additional firepower to bear against the enemy. This is often directed against enemy strength (a "kill zone" is a specific type of fire-thrust). Terrain is exploited to contribute to the impact and duration of the fire-thrust.
 - Maneuver-Thrust: principally an attack by movement with firepower used to support the movement. This is usually directed against weaknesses, vulnerabilities, and gaps in the enemy's deployment in time and space. Maneuver-

thrusts are used in counterattacks and offensive combat.

- d. Thrust-Point: the decisive place where the fire-thrust and/or the maneuver-thrust is brought to bear against the enemy.
 - e. Thrust-Line: the anticipated direction for the movement of a thrust or the sequence of thrust-points in time and space. The thrust-line is used to focus the commander's effort; to shift direction of the main effort when opportunities arise, and to harmonize operations, cooperation, and support.
3. Battle drills and SOPs will incorporate the essence of uniform tactical concepts.

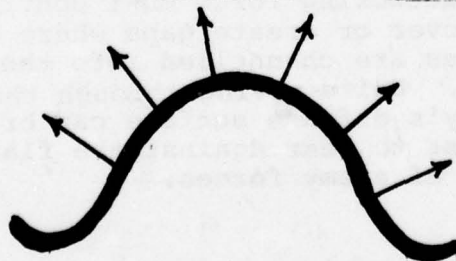
C. Operational Concepts

1. General

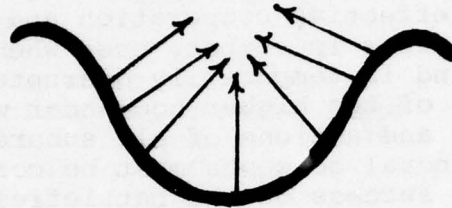
These operational concepts constitute a prerequisite for the effective cooperation and coordination of all forces in combat, even when the exercise of command is temporarily disrupted. The mission guidance of the higher commander will govern the thinking and actions of all subordinate commanders. These general concepts must be continuously applied for success on the battlefield, for they govern the uniform thinking of all elements of command.

2. Theory of Surfaces and Gaps

- a. All combat deployments or formations generate surfaces and gaps on the battlefield in time and space.
 - Surfaces: the leading edges or flanks of a combat formation. These have been called the forward edge of the battle area, the line of contact, or the covering force screen.
 - Gaps: open, unoccupied, or weak areas in the deployment of combat formations.
- b. All conventional combat usually occurs on surfaces and in gaps. When a defender places his forces on terrain in front of an advancing enemy, the defender has created a surface that must be attacked (or perhaps by-passed) if the advancing enemy intends to reach his objective. The defender attempts to destroy the attacker in front of his defensive surface (at least traditionally). Surfaces may be generally linear, convex, or concave.
 - Convex Salients generally disperse fire from the surface.



- Concave Salients generally focus the fire from the surface into a killing zone.



- c. When two surfaces merge in combat, war takes on the appearance of attrition as long as the surface remains continuous--even if there is major forward or backward movement of the surface.
- d. Gaps in a surface are continuously sought by an attacking force to by-pass the strong resistance along a surface, to generate an exposed flank in a surface, and to move into the enemy's rear. Gaps can either be created by reconnaissance and movements or by a fire-thrust. When attacking or defending formations are stretched out, dispersed either in width or depth, gaps will continuously occur.
- e. The theory of surfaces and gaps attempts to turn linear combat into mobile combat--the exploitation of gaps.
- On the defense, the defender deploys forces to suggest the shape of the defensive surface with "apparent or imaginary gaps" to shape the battlefield and to establish conditions for counterattacks. Enemy forces drawn into these salients can be overwhelmed by a fire-thrust.
- On the offensive or in the counterattack, the attacking force must continuously discover or create gaps where overwhelming forces are channelled into the enemy's rear. Units moving through the enemy's defense surface can bring fire-thrust to bear against the flank and rear of enemy forces.

3. Seeing and Shaping the Battlefield

a. Intelligence, Uncertainty, and the Enemy

The enemy will attempt to deceive friendly intelligence by adopting many operational and tactical cover and deception plans. He will attempt to gain surprise by attacking at unexpected times, in unexpected places and directions, and with unexpected methods. He will attempt to maintain the momentum of his operations by channelling second echelon forces into areas of weakness and/or success.

Thus, gaining an accurate picture of enemy intentions and capabilities will be difficult. While intelligence collection and analysis must be thorough and continuous, there is no guarantee that intelligence estimates will provide the commander with a complete, accurate picture of the on-going situation. Uncertainty will continuously remain.

Consequently, the commander is enjoined to shape the battlefield--structuring the battlefield as to the arrival of enemy units on the battlefield in time, space, and sequence--so as to dictate the unfolding of the operation. These actions complement seeing the battlefield. As the battlefield is shaped, the conditions for positive counterstrokes are developed so that the commander can retain the initiative and impose his will upon the enemy.

b. Shaping the Battlefield

Shaping is defined as the timing of adversary units arriving on the battlefield, location of their units on the battlefield, and the force to space densities across the battlefield. Shape is the location of surfaces and gaps in the friendly defensive system. The battlefield is shaped to gain leverage over the enemy at the decisive time and place.

Shaping the battlefield creates false perceptions of the battle and of the existing situation in the mind of the adversary. Operations must be taken in a proper sequence

to shape the battlefield in time and space thereby creating "illusions" of success or failure in the mind of the enemy commander. Based on the adversary's current operational practices;

- if "weakness" is apparent the enemy will continue his current line of operations; units will continue to move forward against the opposition and second echelon forces will be committed in to areas of "apparent weakness".
- if "strength" is apparent, then the enemy will begin moving to by-pass.
- by presenting alternate surfaces and gaps the enemy can be directed to areas and in directions which are advantageous to provide leverage for the friendly force (i.e., the opponent can be made more predictable).

Typically, shape can be developed by using terrain, fire, and/or movement, but, ambiguity, deception, surprise, and secrecy are essential elements in the commander's plan.

As the enemy is drawn into salients or as he is stretched-out he will be subjected to vigorous flank fire-thrusts and maneuver-thrusts. As his forces in our area of main effort are disrupted, the counterstroke begins, taking the battle into the enemy's exposed communications zone.

Fluid operations and shaping operations continuously disorient the opposing commander. Reorientation is difficult as the majority of his forces are committed and underfire; even if the operation becomes comprehensible to the adversary, it is too late to redeem his inferior tactical dispositions.

4. The Defeat Mechanism

- a. To defeat a determined and sophisticated adversary it is necessary to defeat his

strategy. The key to success is the retention of the initiative and the imposition of one's own will upon the enemy. Success requires the maximization of one's own strength against the adversary's weakness in time and space.

- b. Command paralysis of the enemy is the central aim of all engagements and battles. This is accomplished by gaining battlefield leverage on enemy flanks (created by shaping the battlefield), striking around or through these flanks at the enemy's command and control, combat support, and combat service support. As operations proceed into the enemy's rear, his plans are unhinged and invalidated. His C³ systems become overloaded in his attempts to improvise in response to our actions.
- c. Operations must be directed at the opponent's jugular rather than the capillaries and must be executed by well trained troops. The operational essence of mobile warfare is its shock action and its disruption of the enemy's mindset. Rapid operations are designed to confuse and psychologically overpower the adversary.
- d. Offensive and defensive actions are used to shape the adversary's perceptions of the unfolding situation--creating information that represents an incomplete or incorrect picture of the battlefield. As the enemy commander attempts to respond to the "misinformation" he will discover that his actions do not produce the intended results--his actions become incorrect in time, space, and sequence. Further corrective actions, which are again based on faulty information, only deepens his confusion. He begins to lose control of events such that the will and cohesion of his organization is destroyed. As cohesion is destroyed, the enemy's combat and support organizations can be defeated piecemeal by a determined and concentrated force.
- e. Victory is not achieved by successful duels along the forward edge of the battle area (FEBA), but by the destruction of the enemy's

control and support echelons. Successful duels only facilitate the application of our own operational methods.

- f. The maxim for successful engagements and battles is to seek the enemy's flank, then to drive on the enemy's rear--creating confusion, cutting the enemy's lines of communication, forcing him to fight piecemeal and on reversed fronts.

5. The Focus of Main Effort

- a. The concept of focusing the main effort is the underlying concept that holds operations together and makes operations coherent in time and space. An axis of main effort for a combat operation will be established by every commander (platoon to army) for every operation (offensive, defensive, or covering operations).
- b. The main effort is created by concentrating forces, units, or fires or both, and by establishing a general orientation on the ground. The main effort of air forces will be established over and in support of the ground main effort by brigades, divisions, and corps. Close air support, interdiction, and air superiority missions are essential in adding to the impact and power of the thrust and in protecting the thrust from enemy counteraction.
- c. The main effort will be placed where the commander seeks or expects the decision in combat. The commander's mission, his goals, his intentions, the enemy, and the terrain will determine its selection. The commander must always be stronger at the decisive place.
- d. The main effort can be strengthened with firepower, with the commitment of lateral units, or with the commitment of the reserve.
- e. It is frequently necessary to shift and refocus the direction of the main effort during combat so as to move astride the enemy's main attack, to sidestep the enemy's main attack while delivering a counterthrust to his flank, or

to by-pass enemy strong points during an attack. There will always be a constant changing of the weight and direction of the main effort during the course of combat according to the circumstances of the moment.

- f. The location of the reserve depends primarily on the location of the main effort and the degree of mobility of the reserves (affected by type of unit, terrain, and possible enemy interference). Composition and location of the reserve, as well as the time and manner of its employment, must be considered in the commander's operations plan. The reserve should be committed as a whole and usually against enemy weakness. Once the reserve is committed, the commander must immediately establish a new reserve. Force generation and reorganization are continuously necessary.

6. Transition Operations

- a. The central idea of transition operations is to generate freedom of action by altering the thrust and tempo of combat operations such that the enemy cannot react effectively within his decision cycle. As a consequence, enemy actions will usually be incorrect in time and space. The enemy commander will have an incoherent picture of the actual situation, forcing a psychological breakdown as his expectations do not equate to reality. Command paralysis will follow shortly.
- b. By varying the thrust and tempo along a main effort as well as by varying its direction, a smaller unit may easily create the image of a much larger and more powerful force.
- c. By maintaining our own concentration focused in the main effort we reduce our uncertainty and friction; by changing tempo, direction, and type of combat we continuously confuse the enemy as to our capabilities and intentions. This adds to his uncertainty and forces him to fight in the fog of war.

- d. The simple expedient of being unpredictable in combat accrues ample dividends.

D. Organizing for Combat

1. General

The composition of friendly forces, their distribution on the battlefield in width and in depth, and their dispersal or concentration depends on the mission, the situation, and the commander's intentions.

2. Mission Guidance

The mission guidance for an operation will always state the goals or objectives of the operation (objectives are more restrictive than goals), the location and direction of the main effort, and the intentions of the commander.

a. Goals/Objectives:

The overall goal of all combat operations is to disorganize and disrupt the organizational cohesion of the enemy and upset his operational plan. This is accomplished by establishing goals that disrupt the essential control and support elements of the enemy's forces.

b. Focus of Main Effort

Every operation will have a location and direction of main effort. This must be created by all commanders through the use of control and coordination techniques, and it must be communicated to every subordinate element in the operation--combat, combat support, and combat service support elements. All subordinate elements will establish their main efforts to support the principle effort and the intentions of the commander.

The main effort will usually be oriented against enemy weakness to maximize the velocity and violence of operations and to disorient the enemy forces.

The main effort must be continuously shifted to reflect the current situation facing the commander. Local reserves will be committed to refocus and/or maintain the momentum of the operation.

c. Intentions:

The commander's intentions for the conduct of the operation will be explicit. Intentions will communicate the commander's concept of the operation, the types of combat to be employed and when, and the conditions for the commitment of his reserve.

3. Composition

Units are organized according to their particular tasks in combat; composition is influenced by the capabilities of specific units, by terrain, and by the enemy situation. Task force organization is one specific element in composition for combat.

4. Distribution

a. Width:

By organizing forces across a broad front more combat power can be brought to bear against the enemy, but friendly forces may be tied down by vigorous enemy action. Quick reorganization is difficult and freedom to maneuver may be lost.

b. Depth:

By organizing forces in depth the commander maintains freedom of action, allowing relief of forces that are decisively engaged, and quick reorganization. Distribution in depth allows units to move between battle positions, to transition between types of operations, and provide mutual support as the situation dictates.

c. Dispersed:

Forces that are distributed in space are less effected by the fire of enemy weapons (particularly nuclear weapons); however, excessive dispersal diminishes the impact and power of a thrust while making quick concentration or reorganization difficult. Quick movement of concentrated forces may generate an incorrect perception of dispersal to the enemy.

d. Concentrated:

Concentration of forces in offense or defense becomes necessary again and again--both in time and space. Concentration allows the commander some freedom of action and some security against the unexpected.

Commanders must attempt to create an illusion of concentration across the battlefield to deceive the enemy.

Force generation and reorganization is a constant and necessary task for the commander. When the reserve is committed, a new reserve must be constituted immediately.

III. OPERATIONAL METHODS

- A. General
- B. Covering Operations
- C. The Defense
- D. The Offense
- E. Command and Control Measures

A. General

1. Operational Methods serve as the linkage between engagements--the elements of a battle--and the aim of the battle which is to implement the defeat mechanism.
2. The key idea in any operational method is to develop conditions such that friendly forces can thrust quickly into the enemy's rear generating a rapid succession of shocks that confuse, disrupt, and demoralize the opposition--ultimately paralyzing his countermoves at each successive stage and, thus, bring about his continuously spreading collapse. The main stroke is aimed at the brain of the enemy's organization and not at its body.
3. The adoption of any of the operational methods must be the conscious decision of the commander; he must plan how engagements will unfold in time, space, and sequence. The enemy must not be allowed to dictate the structuring of the battlefield or the unfolding of events.
4. The commander must shape the battlefield to generate conditions for the employment of the selected operational method, and, hence, the defeat mechanism. The commander shapes the battlefield using terrain, fire, and movement.
 - a. Terrain, occupied by defending or delaying forces, is used to stop or channel the enemy in directions favorable to friendly forces.
 - b. Fire is employed to disrupt enemy actions, to delay the arrival of reserves, or to deny areas to the enemy.
 - c. Movement is initially used to stretch out enemy formations, to confuse the enemy as to our intentions, and to generate ambiguity.
5. Covering, reconnaissance, and security operations must be implemented and practiced by all commanders during combat.

- a. Defensive and offensive covering operations must maintain contact with the enemy, must inflict maximum destruction on the enemy without becoming decisively engaged, and must force the enemy to reveal the area of his main effort.
 - b. Covering forces must shape the battlefield according to the intentions of the commander. Covering forces will attempt to discover enemy flanks or gaps in the enemy formations, and will create flanks when so directed by the commander.
6. Commanders, under any operational method, must be prepared to exploit any advantage. When success becomes apparent, the commander must ruthlessly exploit the initiative to bring about the final collapse of the enemy.
7. Every combat operation requires the application of a combination of operational methods and tactical techniques that correspond to changes in the situation. Operational methods can be employed successively or simultaneously with no single one exercising a predominant or decisive influence over the outcome of the battle. Rather the selection of and transition between operational methods are designed to confuse the enemy while allowing the friendly effort to strike at the decisive place and time.
8. There are two general forms of operational methods--the defense and the offense. However, within each of these forms there are multiple variants.

B. Covering Operations

1. General

Covering operations are an integral element in all combat operations.

2. Covering force operations are of two general forms:

- Advanced and Flank Guard Operations which cover and protect the offensive actions of the main body.
- Delay Operations which cover and protect the defensive actions of the main body.

3. The covering operation is an economy of force operation which preserves the combat power of the main force. Covering force operations are selected:

- when, as an advanced guard operation, it is necessary to preserve the offensive power of the main force in its movement to and penetration of the enemy's defensive lines;
- when, as a transition tactic, it is determined that the continuation of a particular line of operations is no longer beneficial;
- when, as a delaying operation, it is determined that the force to space ratio is insufficient to destroy a superior enemy force.

4. The covering force should be organized to inflict maximum casualties on the enemy by employing long range fire-thrusts that disrupt the enemy's organization and cohesion, either forcing him to deploy or disorganizing his operation.

5. The covering force must be strong enough to strip away enemy reconnaissance and security forces and to conduct major offensive or defensive operations with enemy first echelon battalions and/or regiments.

6. The covering force is continuously used as an intelligence collection instrument that attempts

to locate and identify committed enemy units and to discover enemy intentions--by forcing the enemy to reveal the location and orientation of his forces (either main attack or main defense lines).

7. Tactical Concepts

- a. Coordinated fire and movement is particularly important to forces conducting covering operations.
- b. Fire-thrusts are conducted to destroy enemy forces and or pin advancing elements to the ground. Fire-thrusts will be conducted at long range and will include the combined effects of multiple weapons systems. Well executed and surprise fire-thrusts will shock the enemy and paralyze his will to fight. An overwatching fire-thrust can reinforce the fires of an element under attack and assist in its relief.
- c. Maneuver-thrusts are executed against the open flanks of enemy formations. Here shock is produced by surprise--the presence of our force on the enemy's flank. The strength and suddenness of a maneuver-thrust will divert the enemy's attention away from his primary task. Maneuver-thrust can be used as a relief of a decisively engaged unit.

C. The Defense

1. General

- a. The goal of defensive operations is to develop conditions for vigorous counteractions that disorganize the enemy conduct of the attack, unhinge his efforts, and bring about his dislocation. Specific objectives include:
 - Economize force;
 - Destroy or reduce the striking power of the attacking enemy;
 - Deny the enemy entry into a specific area.
- b. Certainty and Uncertainty. Defensive operations must continuously place the enemy in the fog of war. Defensive operations must shape the battlefield in time, space, and proper sequence to increase our understanding and control over the unfolding events. Friendly actions must generate ambiguity in the enemy's perception of the situation.
- c. Transition Operations. All forms of tactical combat--covering, defensive, and offensive operations--must be continuously used by commanders during defensive operations. Rapid and continuous changes in maneuvers and operational method, direction, and tempo of operations will keep the enemy off balance.

2. Area Defense

An area defense is essentially based on terrain and its retention.

- a. Defend and Hold: this is the most restrictive of all combat operations and is to be avoided whenever possible since it requires defending forces to retain specific terrain features. Decisive engagement, often at unfavorable odds, will usually occur. Defend and hold may be required when specific terrain provides

leverage, a base or pivot, for following operations. Strong points are usually prepared.

- b. Defend in Sector: the defending force has the freedom to move within its assigned sector, using various forms of tactical combat, in executing its mission. Decisive engagement may occur, but usually at the discretion of the tactical commander. Some enemy success may be allowed.

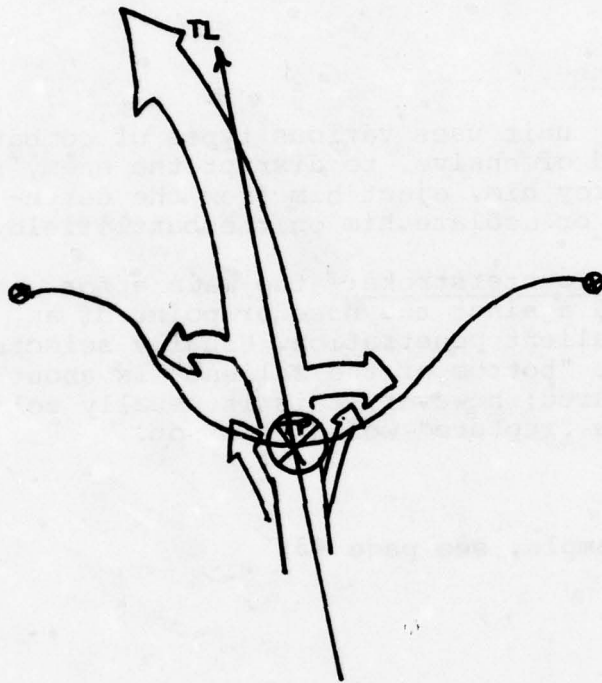
3. Mobile Defense.

The defending unit uses various types of combat, defensive and offensive, to disrupt the enemy's attack, destroy him, eject him from the defensive sector, or isolate him on the battlefield.

- a. Frontal Counterstroke: the main effort is directed against the nose or point of an enemy salient penetration. Usually selected when the "bottom of the salient" is about to be ruptured; however, this is usually selected when the "rupture" would be minor.

(For example, see page 43)

- b. Flank Counterstroke: an attack conducted from a secure pivot on the flank of an enemy salient with the main effort extending into the rear of the enemy force to act against his lines of communication, forcing enemy units in the salient to fight on reversed fronts, in unexpected directions, and at unexpected times. It is



FRONTAL COUNTERSTROKE
 offensive salient created by enemy pressure
 along the final defense line.

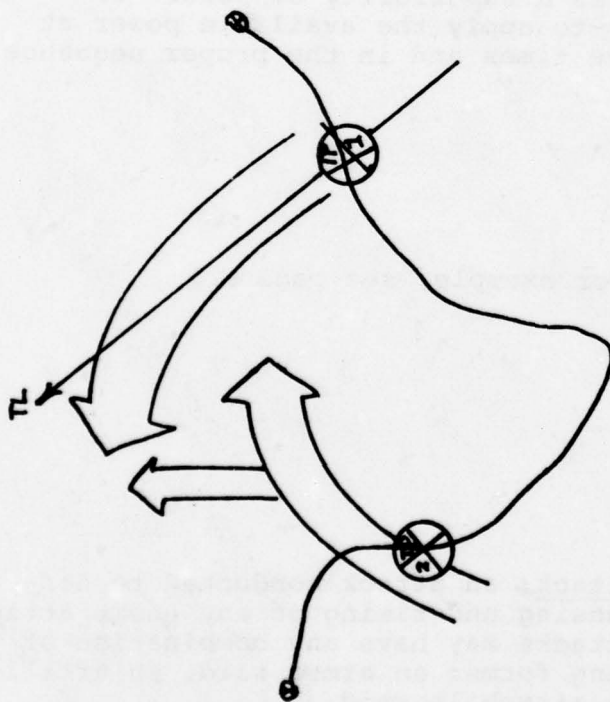
usually necessary to have a second shoulder, either a friendly flank or a natural barrier.

(For example, see page 45)

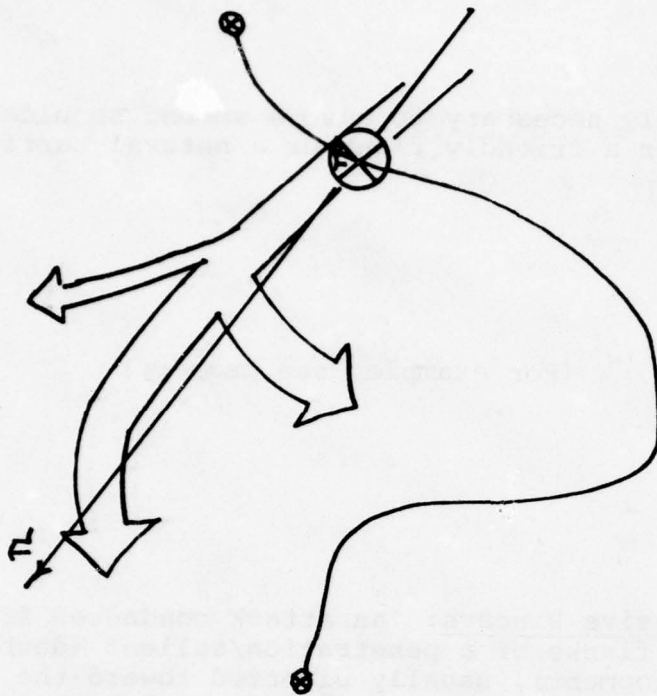
- c. Defensive Pincers: an attack conducted from both flanks of a penetration/salient (double envelopment), usually directed toward the rear of the enemy before "hooking" back to seal off the penetration. One of the wings of the defensive pincer must be designated as the main effort and include the thrust-line. Operations on each flank may be concurrent--when there is a superiority of power--or sequential--to apply the available power at the decisive times and in the proper sequence.

(For example, see page 45)

- d. Spoiling Attack: an attack conducted to disrupt the massing and timing of any enemy attack. Spoiling attacks may have any combination of the following forms: an armor raid, an artillery raid, or an airmobile raid.



DEFENSIVE PINCERS
salient created by enemy pressure
along the final defend line



FLANK COUNTERSTROKE
offensive salient created by enemy pressure
along the final defend line.

D. The Offense

1. General

- a. The goal of offensive operations is to rupture the cohesion of the enemy's defense, to strike against the enemy's rear, and ultimately, to bring about his collapse. The objective is to have elements of the main effort disrupt and/or destroy critical elements in the enemy's command, control, and support apparatus.
- b. Certainty and Uncertainty. Offensive operations must be undertaken with secrecy, surprise, and deception; the enemy commander must be placed in the "fog of war" by rapid movement, changing tempo, or other deceptive measures. Offensive operations must strike swiftly and out of the dark. Ambiguity must be generated by striking at multiple objectives, by using unpredictable operational methods (e.g., immediately changing the direction of main effort on penetration as in supporting a major flank roll out), or other deceptive operations (e.g., driving in one direction and then immediately reversing the operation 90 degrees in the other direction). The intent is to place the enemy commander on the horns of a dilemma. Essentially, commanders must strive to be unpredictable in combat.

Certainty is maintained between friendly forces by concentration along the axis of the main effort.

c. Transition Operations

- Offensive, defensive, and covering tactics must be continuously used by commanders during an offensive thrust. However, the command of the offensive operation must continually focus on his goal--the disintegration of the enemy's combat organization. Thus, operations must seek to exploit enemy weaknesses and to maintain one's own concentration of effort and force.

- The rapid changing of operations methods, the direction of main effort, and tempo is designed to achieve ambiguity in the enemy's mind. This ambiguity is then exploited to destroy the integrity of the enemy's forces--both physically and psychologically.
- As the commander executes operational transitions he must continually maintain his own concentration in time and space and effort.

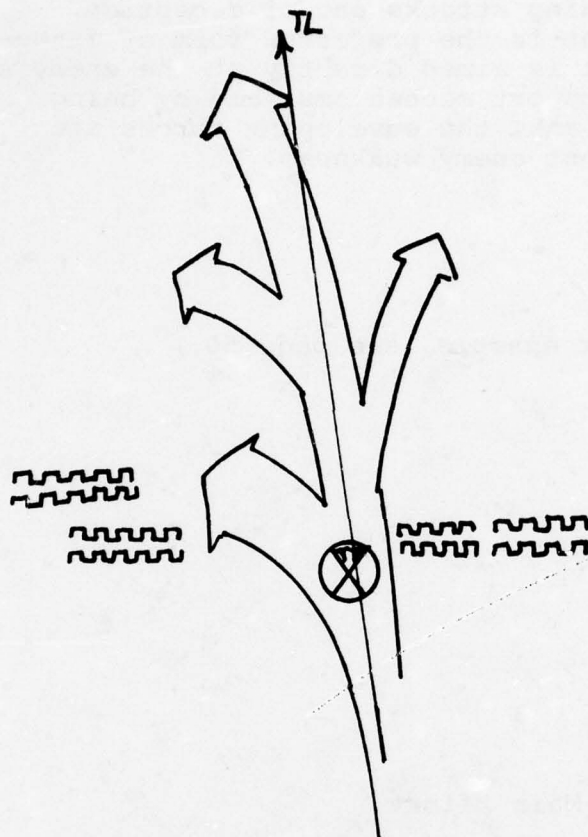
2. Penetration

In the penetration, the thrust-line is directed against the weaknesses in the principle defensive positions of the enemy. The goal of this maneuver is to destroy the continuity and cohesion of the enemy's defensive belt, divide his forces, exploit to the rear, and defeat him in detail. The penetration is selected when strong fire support is available, when the enemy is overextended in time and space, or when his flanks are unassailable. Operations must be organized in depth to add to the impact and to the momentum.

(For example, see page 48.)

3. Envelopment

In an envelopment, the main effort is directed at passing around or through an enemy flank to secure goals and objectives in the enemy's rear, cutting his lines of communication, and subjecting his forces to disruption or destruction from the flank and rear. The envelopment is facilitated by



PENETRATION

surprise and superior mobility. The success of the envelopment is dependent on holding the enemy in place; this may be accomplished by secondary holding attacks and/or deception. The envelopment is the preferred form of maneuver because it is aimed directly at the enemy's control and support mechanisms, and by being placed on a flank, the enveloping forces are directed against enemy weakness.

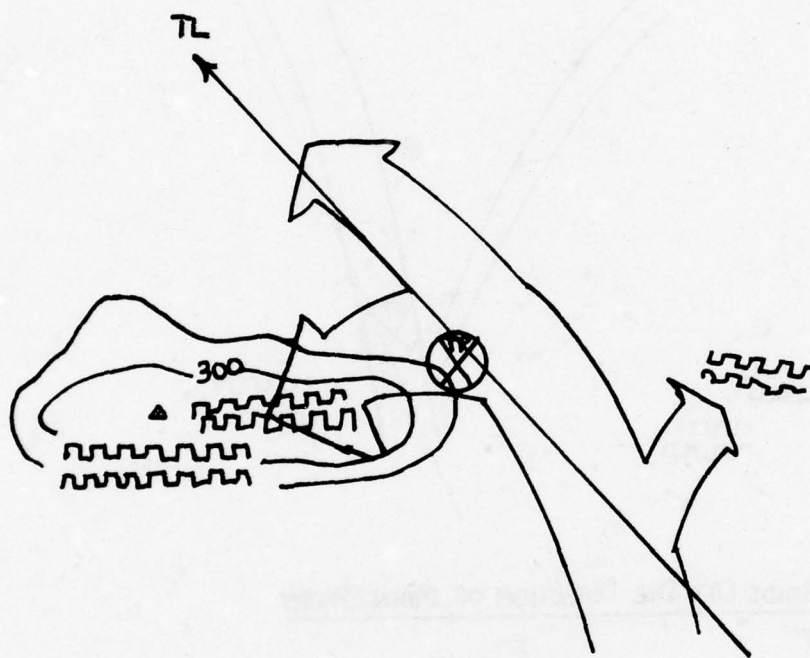
(For example, see page 50.)

4. Raids off the Main Effort

Raids are undertaken to confuse the enemy about the direction and objectives of the offensive operation. Generally a raid will be conducted against a specific objective with the attack and withdrawal routes selected to support the overall operational scheme. Depth and duration of the raid will determine the organization of the raiding element. Organization must include the mutual support of all branches.

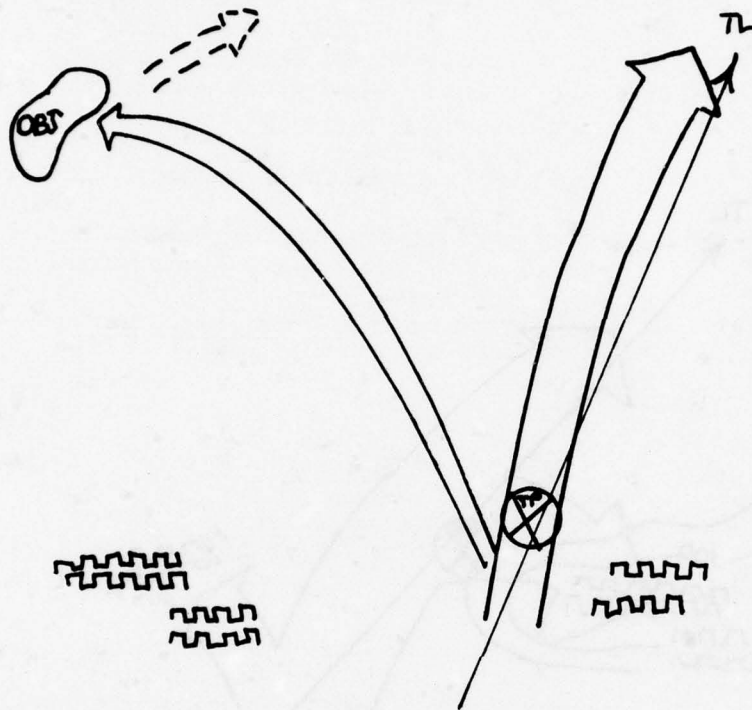
Raids may be viewed as similar to older style cavalry operations. A "moving pocket (providing all around protection)" is necessary as the raid moves through enemy territory.

Raids may provide limited flank security to an operation by confusing the enemy, gaining



ENVELOPMENT

intelligence, and by providing a limited flank guard covering force.



RAIDS OFF THE DIRECTION OF MAIN EFFORT

E. Command and Control

1. General

Command and control measures range from "unrestrictive and general" to "restrictive and specific." The degree of control that a commander will exercise over his subordinates is a function of the mission, the commander's intentions, and the situation--to include the relative strength of the opposing forces.

2. Mission Guidance

The mission guidance is the most important coordination and control measure. Mission guidance makes an operation coherent in space and time; this guidance must be established and disseminated clearly and accurately. Mission guidance to a commander should indicate the scope of operations to two echelons higher than his unit.

- a. Goals and Objectives of Operations. The ultimate goal of any combat operation is to impose the commander's will on the enemy--forcing the enemy to acquiesce to the commander's intentions. Certain specific objectives might contribute to the achievement of a stated goal. A subordinate commander might be given the objective of destroying an enemy CP, the goal of which would be the disruption of the organizational cohesion of this enemy force.
- b. The focus of Main Effort. The main effort of all combat operations must be directed toward a decisive goal; the main effort should normally strike at weakness. The main effort can be shifted to take advantage of enemy mistakes. All forces will direct their main efforts to support the "mission guidance" of higher headquarters while maintaining control, coordination, and continuity of effort. Specific coordination and control measures are presented graphically in subsequent paragraphs.
- c. Intentions. The commander's intentions for an operation must be explicit. A thorough understanding of the commander's intentions is essential if lower echelon commanders are

to make decisions and take actions in view of the perspective of the larger operation. Additionally, in the event of communications disruption, units can still perform their tasks since they know the commander's design. "Intentions" must include the scheme of maneuver, the operational method to be used, and the anticipated unfolding of the operation.

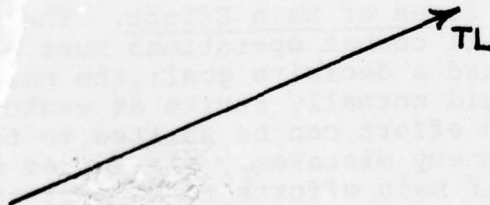
3. General Command and Control Measures

Two essential control measures are used for all operations to depict the main effort.

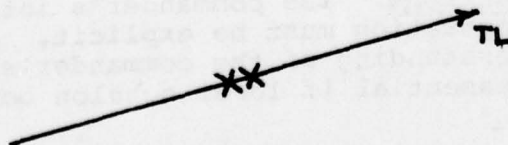
- a. Thrust-Point: a specific, and ideally decisive, point where a fire-thrust and/or a maneuver thrust is directed against the enemy.



- b. Thrust-Line: the specific direction of a thrust; essentially the sequence of thrust points in time and space. The thrust-line is used to focus a unit's efforts; to shift its direction when opportunities arise; and to harmonize operations, cooperation, and support.



A unit size notation will be superimposed on the thrust-line to indicate its directing headquarters.



4. Defense: Command and Control Measures

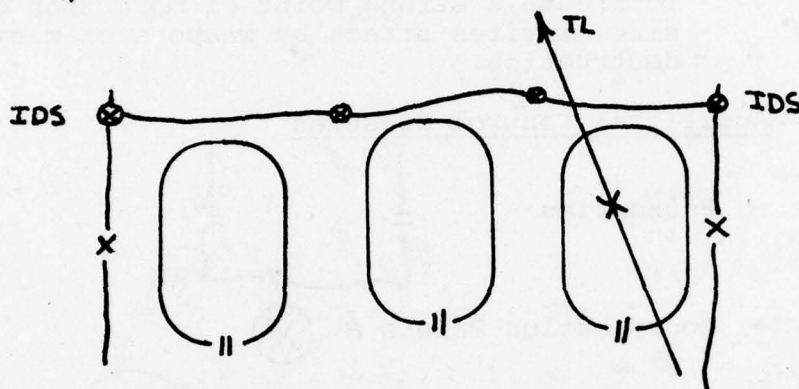
a. General - Concepts of "Mission Guidance" apply.

b. "Unrestricted and General."



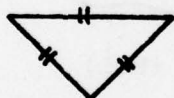
- Defensive Area (DA)

(depth about $1\frac{1}{2}$ times the width)



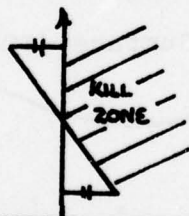
NOTE: The "thrust-line" in the defensive OM depicts the area main effort for the defense, prior to a counterattack.

c. "Slightly Restrictive."



- Defensive Position (DP)

● denotes a specific position rather than an area.

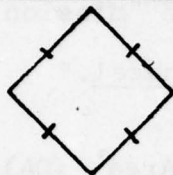


- Ambush Position (AP)

NOTE: The "kill zone" is always located on the same side of the arrow as the lower triangle.

● denotes both a position and a specific OM

d. "Restricted and Specific."



- Strong Point (SP)

- this is a position which cannot be yielded. Normally extensive preparation must be made, to include the allocation of extra combat support and combat service support resources. To create a strong point of more than company size, invites attack by weapons of mass destruction.

e. Additional Control Measures

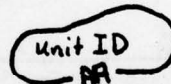
- Boundaries -



- Coordination Points -



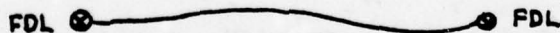
- Assembly Areas (AA) -



- Routes of March (with start and release points)



- Final Defensive Line (FDL)



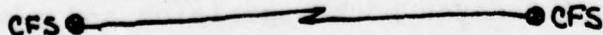
- Initial Defensive Surface (IDS)



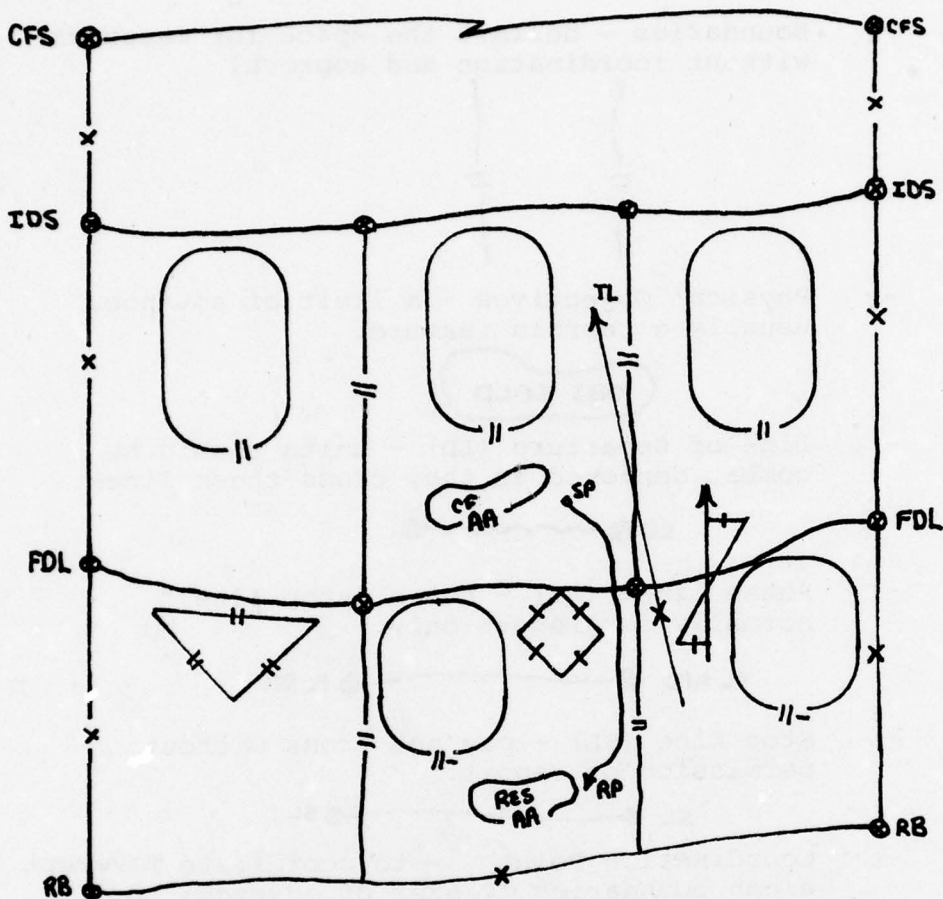
- Phase Lines (PL)



- Covering Force/Surface (CFS)



Example.



Passage Points/Lanes - these coordination measures allow the covering force elements to pass through the IDS trace. These points should be physically coordinated by affected units.

11 PP

5. Offense: Command and Control Measures

- a. General - Concepts of "Mission Guidance" apply.
- b. "Unrestrictive and General"
 - Thrust-Line - as defined, units will orient their operation on the thrust-line.

c. "Restrictive and Specific"

- Boundaries - delimit the space for maneuver without coordination and approval



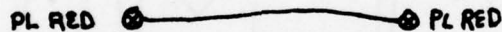
- Physical Objectives - a limit of advance, usually a terrain feature.

OBJ GOLD

- Line of Departure (LD) - units should be combat deployed as they cross these lines.



- Phase Lines (PL) - not a "stop line," normally for report only.



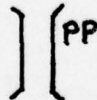
- Stop Line (SL) - may not cross without permission or report.

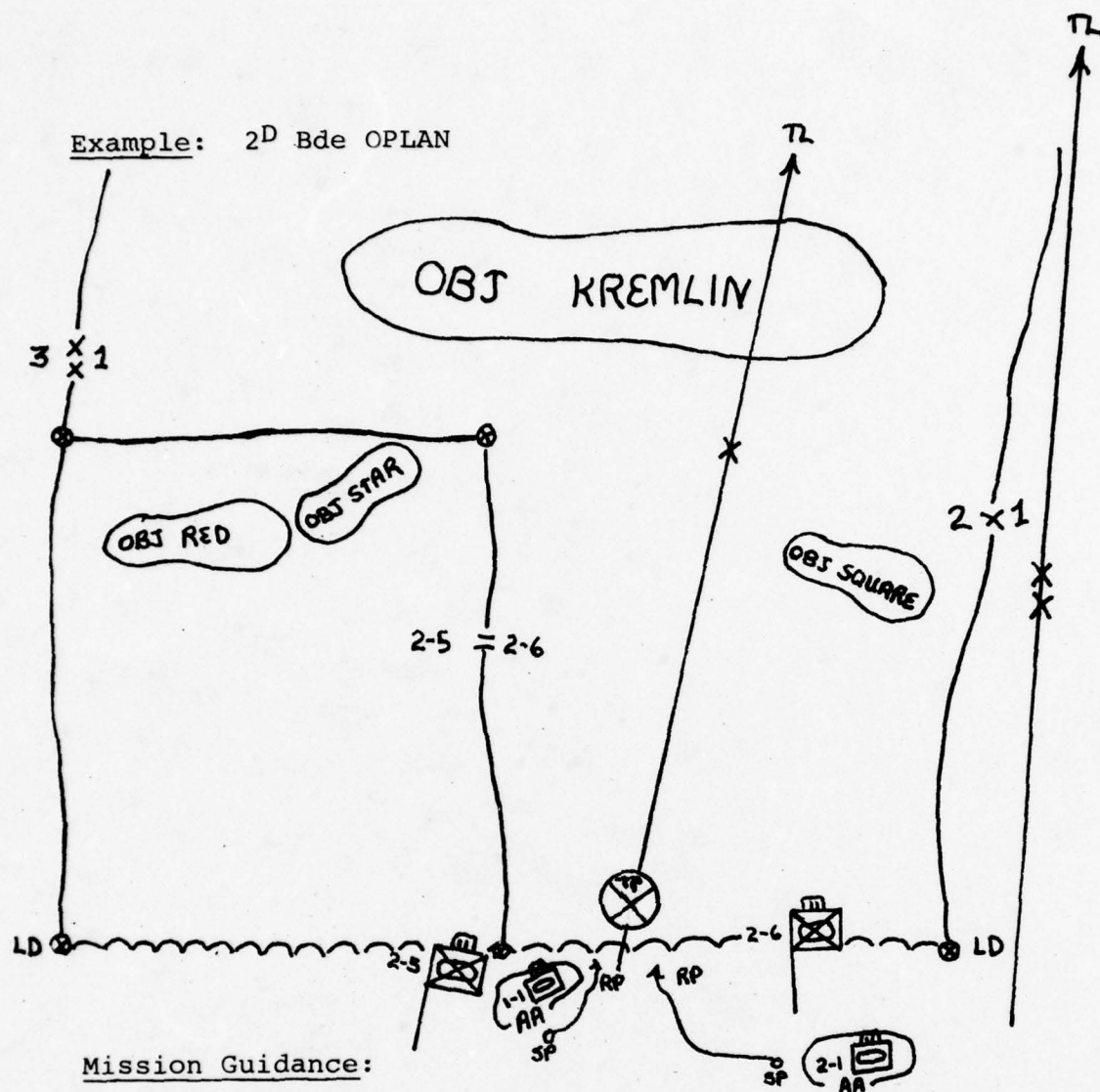


- Coordination Point - to coordinate movement along boundaries or axes of advance; to monitor progress and phase the application of combat power (normally used with phase lines for this latter).



- Passage Points - used to pass reserves through units in contact.





1AD conducts an attack to seize Elbe R. from Wittenberge to Havelberg, to destroy enemy crossing sites, block landings, and disrupt operations of Soviet 2^D Guards Tank Army. 1AD will be prepared to exploit or defend on order. 2^D Bde conducts penetration as shown to seize OBJ KREMLIN and will be prepared to exploit along the left of 1AD thrust-line. 3^D Bde initially follows 2^D Bde to envelop to the right of KREMLIN and exploit to Elbe R. 1st Bde conducts a demonstration in sector, reverting to division reserve. I would expect major enemy counter-actions on division left flank.

Thrust-Line: As shown.

Intentions: I intend for TFs 1-1 and 2-1 Armor to attack along Bde TL; TF 2-5Mech seize OBJs RED and STAR, providing flank security to TL; TF 2-6 Mech follow 2-1 Armor, seize OBJ SQUARE, providing flank security to Bde TL and becomes Bde reserve.

Breakiron
COL, AR

APPENDIX G

SOVIET/WARSAW PACT OPERATIONAL METHODS

APPENDIX G

SOVIET/WARSAW PACT OPERATIONAL METHODS

I. General

The paragraphs that follow provide in very general terms Soviet Operational Methods (OM). This material, when combined with the "Threat" paragraphs of Chapter III, constitutes the Soviet doctrine used by the war game players. This material was issued to both RED and BLUE players.

II. Threat Offensive Operations

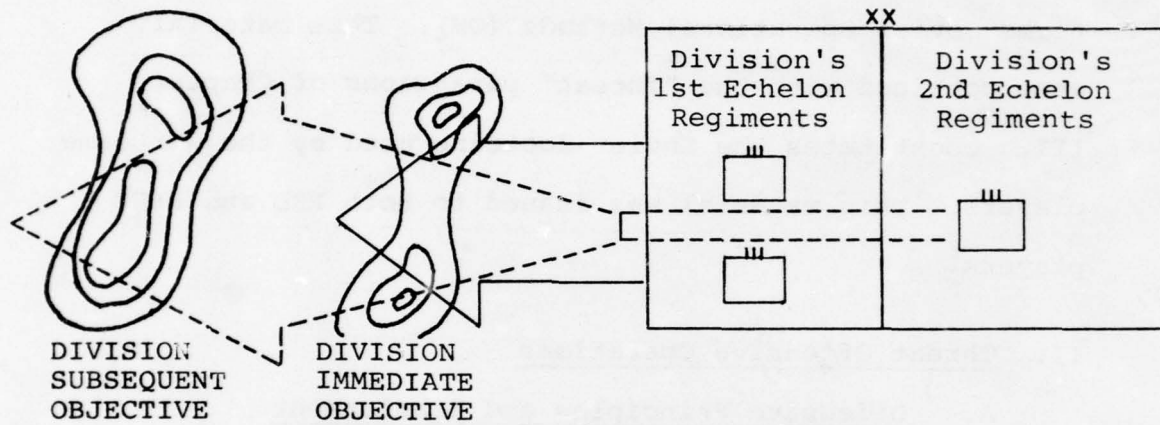
A. Offensive Principles and Echelonment

1. Maintain attack momentum that allows a 60-100 kilometer per day advance in a nuclear environment and a 30-50 kilometer per day advance on a conventional battlefield. To achieve this rate of advance: (1) strongly defended areas are to be bypassed; (2) defenses are to be breached at weakly defended points, and (3) units are to operate 24 hours a day under all conditions.

2. Assignment of Objectives to Echelons:

General Rules. An element's first echelon attains that element's immediate objective. The element's second echelon attains its subsequent objective.

FIGURE G-1



3. Assignment of Objectives to Echelons:

Objective Depth:

FIGURE G-2

KILOMETERS

300-350	150-200	50-70	20-30	8-15	2-4	FEBA
FRONT SUBSEQUENT	FRONT IMMEDIATE ARMY SUBSEQUENT	ARMY IMMEDIATE DIVISION SUBSEQUENT	DIVISION IMMEDIATE REGIMENTAL SUBSEQUENT	REGIMENT IMMEDIATE BATTALION SUBSEQUENT	BATTALION IMMEDIATE	
(2d Ech Army)	(2d Ech Div)	(2d Ech Regt)	(2d Ech Bn's)	(2d Ech COs)		
2nd Ech armies	1st Ech armies	1st Ech divisions	1st Ech regiments	1st Ech battalions	1st Ech companies	



With light resistance a unit could make further progress in depth than indicated above. Conversely, and more realistically, it may be necessary for a unit to commit its 2nd echelon to attain its immediate objective

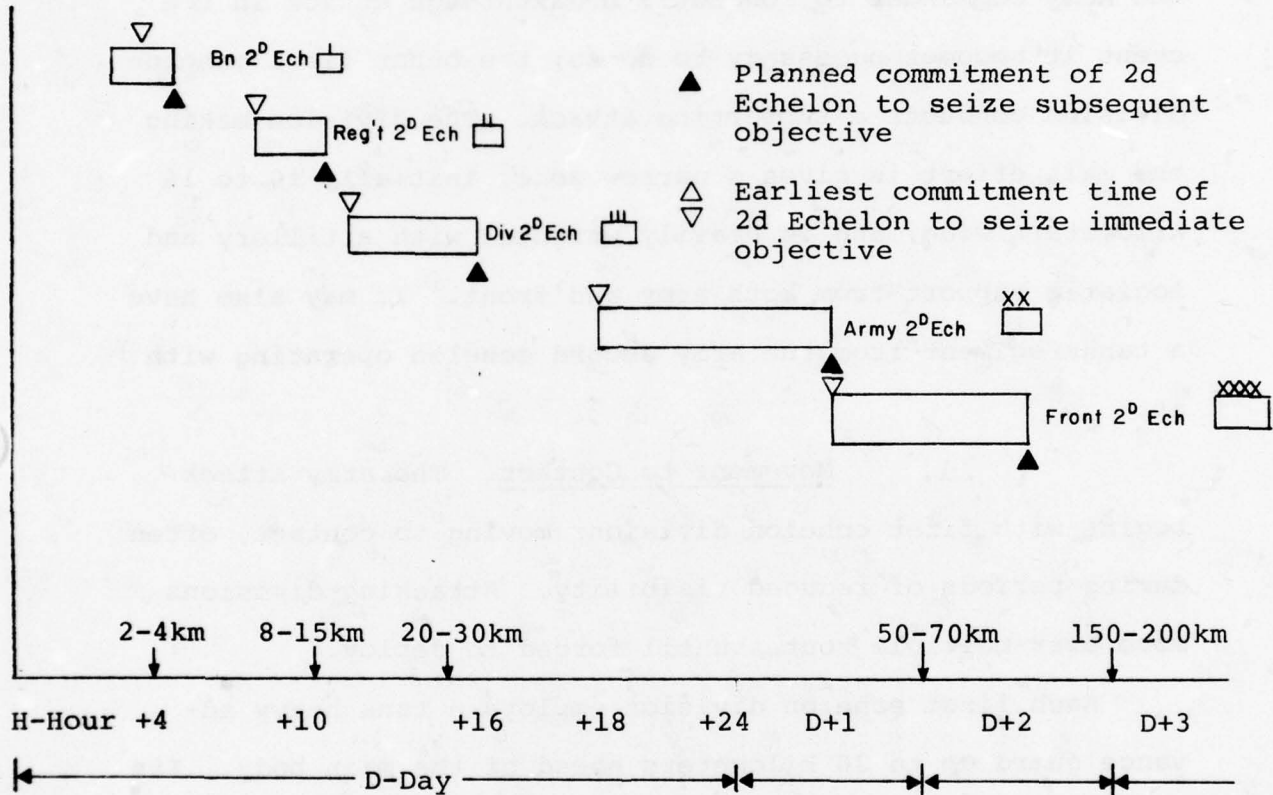
4. Echelons and Objectives: Times of
Commitment and Attainment

FIGURE G-3

	Bn 1st Echelon 1st Ech Co's	REG'T 1st Ech 2d Ech Co's	Div 1st Ech 2d Ech Bns 1st Each Reg's	Army 1st Ech 2d Ech Regt of Divs	Front 1st Ech 2d Ech Div of	Front 2d Ech Armies
Objectives	Bn immedi- ate	Regt Immed Bn Subse	Division Immediate Reg't Subsequent	Army Immediate Div Subse- quent	Front Immedi- ate Army Subse- quent	Front Subsequent
Depth of OBJ from FEBA kms	2-4	8-15	20-30	50-70	150-200	300-350
Expected location into enemy depth com- mitted kms	FEBA	2-4	8-15	20-30	50-70	150-200
Expected time of commitment	H-hr	H+4	H+10	H+18	Day 2-3	Day 3-4
Expected time of OBJ attainment	H+2	H+7	H+15	Day 2-3	Day 3-4	Day 7

5. Contingency Commitment: 2d Echelon Forces
May Be Committed Earlier Than Planned if Necessary to Assist
in Attaining the Elements Immediate Objective.

FIGURE G-4



B. Threat OM in the Offense

An attacking threat army usually employs two divisions in the first echelon and two divisions in the second echelon.

One first echelon division is normally designated by the Army commander to conduct a breakthrough attack in the event it becomes necessary to do so; the other first echelon division conducts a supporting attack. The division making the main effort is given a narrow zone, initially 10 to 16 kilometers wide, and is heavily weighted with artillery and logistic support from both army and front. It may also have a tank regiment from the army second echelon operating with it.

1. Movement to Contact. The army attack begins with first echelon divisions moving to contact, often during periods of reduced visibility. Attacking divisions move over multiple routes until forced to deploy.

Each first echelon division employs a tank heavy advance guard up to 30 kilometers ahead of the main body. Its purpose is to roll back the defender's covering force and to locate the main battle area. The advance guard for the division making the main effort may be as much as a reinforced regiment from the army second echelon; otherwise, the advance guard is provided by one reinforced battalion from each first echelon regiment.

Mobile air defense, automatic weapons, and low altitude SAM are integrated by individual piece into march columns. High altitude SAM units normally move as a battery and may be integrated into march columns or move along separate routes to insure adequate coverage. Towed AA guns also move as a battery, integrated into march columns (see Figure G-5

2. Hasty Attack. When contact is made, the advance guard attempts to destroy the enemy force. If not immediately successful, the advance guard attempts to locate enemy flanks, gaps, and weak points while the main body deploys. The main body then conducts a hasty attack from march column against enemy flanks and rear, supported by all available artillery and air, as shown (see Figure G-6).

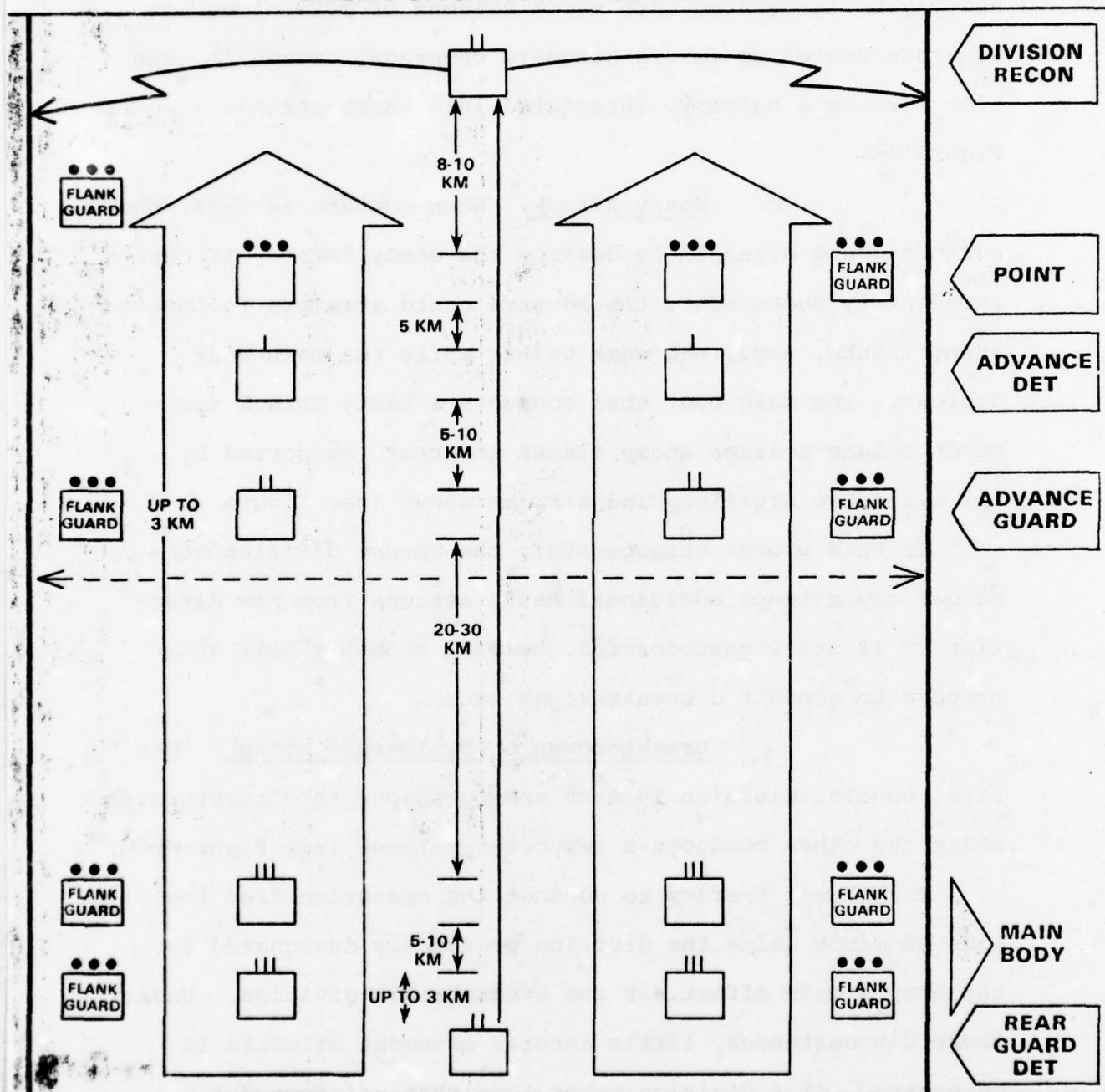
If this proves unsuccessful, the Threat division commander may attempt additional hasty attacks from new directions. If still unsuccessful, he will probably halt and prepare to conduct a breakthrough attack.

3. Breakthrough or Deliberate Attack. One first echelon division in each army conducts the breakthrough while the other conducts a supporting attack (see Figure G-7).

The Threat prefers to conduct the operation from the line of march using the division previously designated for the Army's main effort, as the breakthrough division. Under these circumstances, little lateral movement of units is necessary. If a division other than that reinforced for

FIGURE G-5

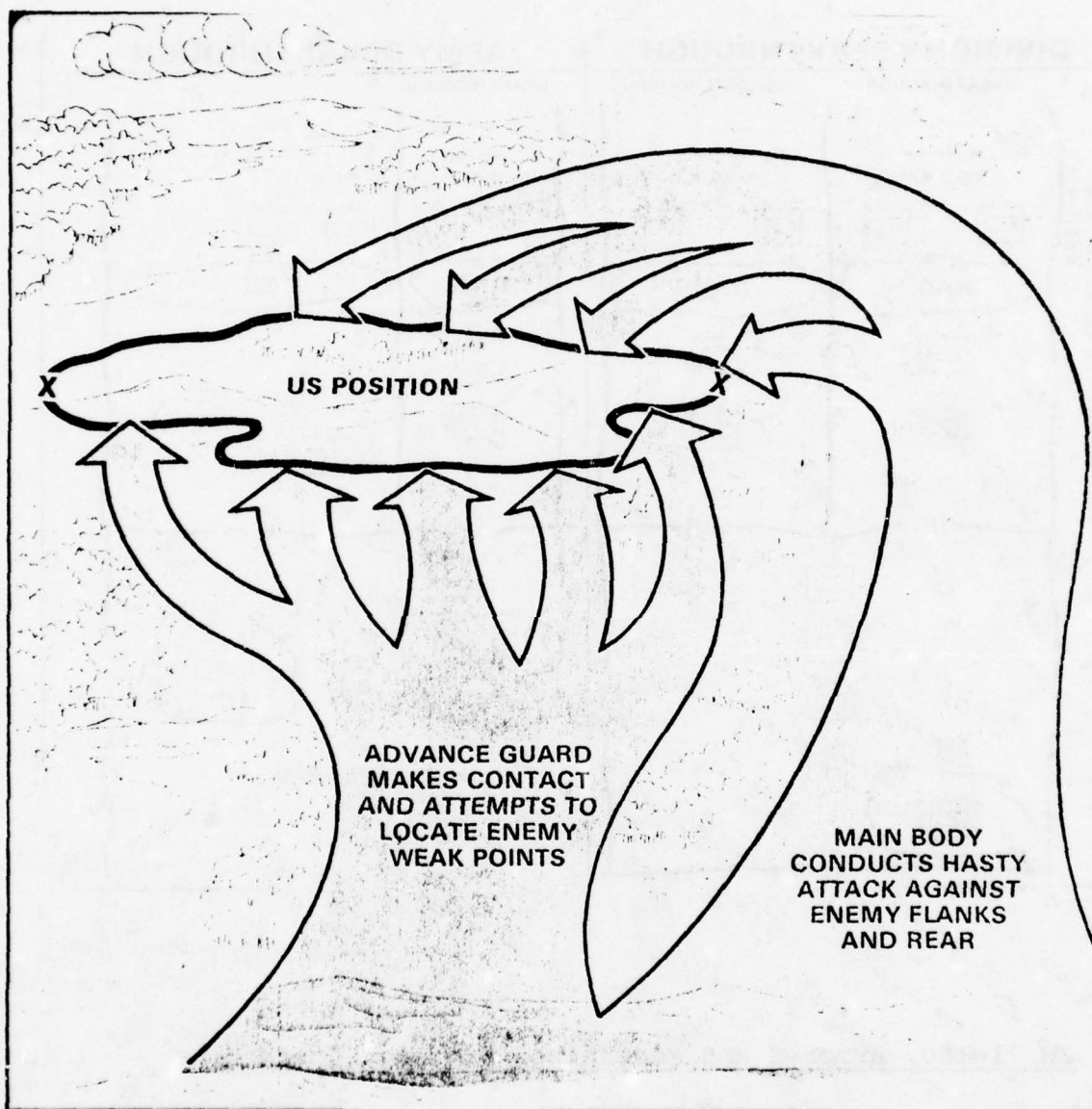
THREAT DIVISION MOVEMENT TO CONTACT
ENEMY SITUATION VAGUE OR WEAK



FM 71-100, Armored and Mechanized Division Operations

FIGURE G-6

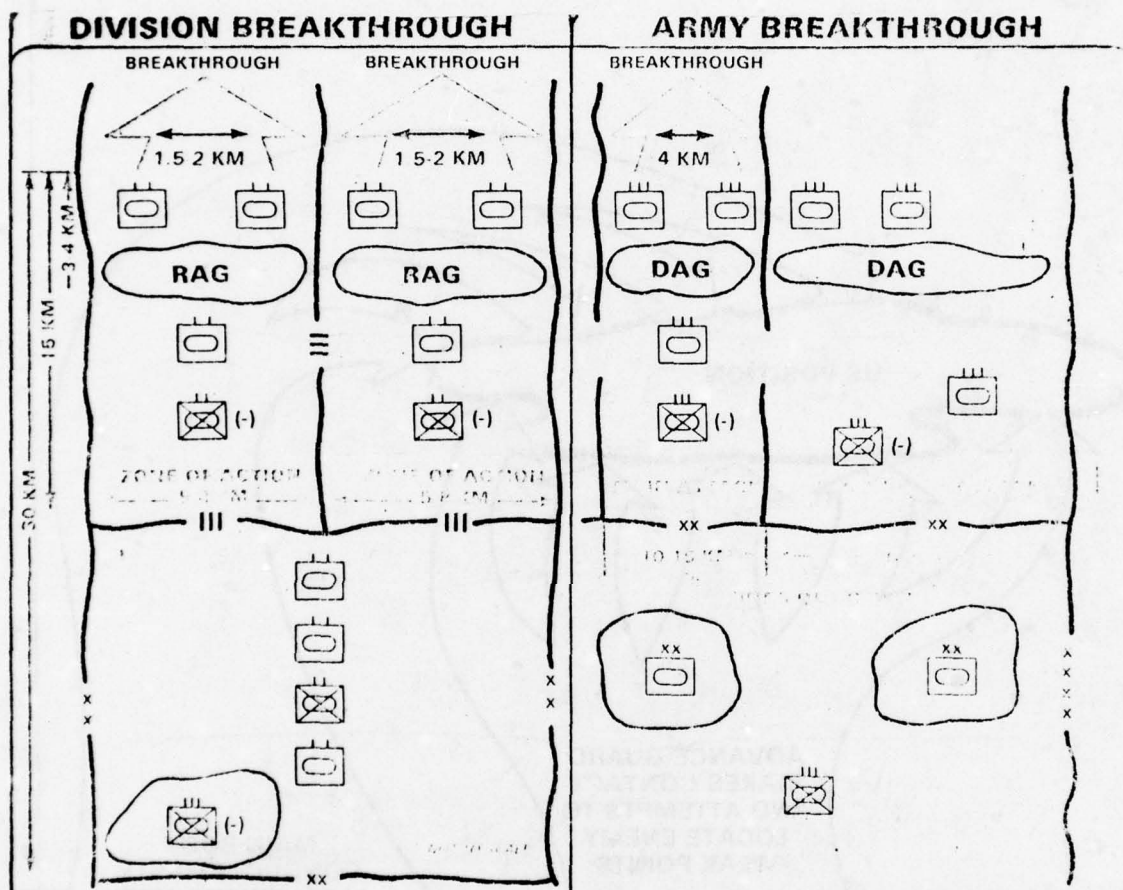
HASTY ATTACK



FM 71-100 Armored and Mechanized Division Operations

FIGURE G-7

THREAT UNITS IN THE BREAKTHROUGH



FM 71-100, Armored and Mechanized Division Operations

the main effort is selected for the breakthrough, repositioning of artillery and logistical units to support the operation can be time consuming.

Although there is little lateral movement, there may be considerable forward and rearward movement of artillery and ammunition vehicles, as artillery is repositioned and organized into regimental and divisional artillery groups. Each group consists of from two to four battalions. An army artillery group of two to four battalions of 122-mm, 130-mm, and 152-mm guns provides counterfire support (see Figure G-8).

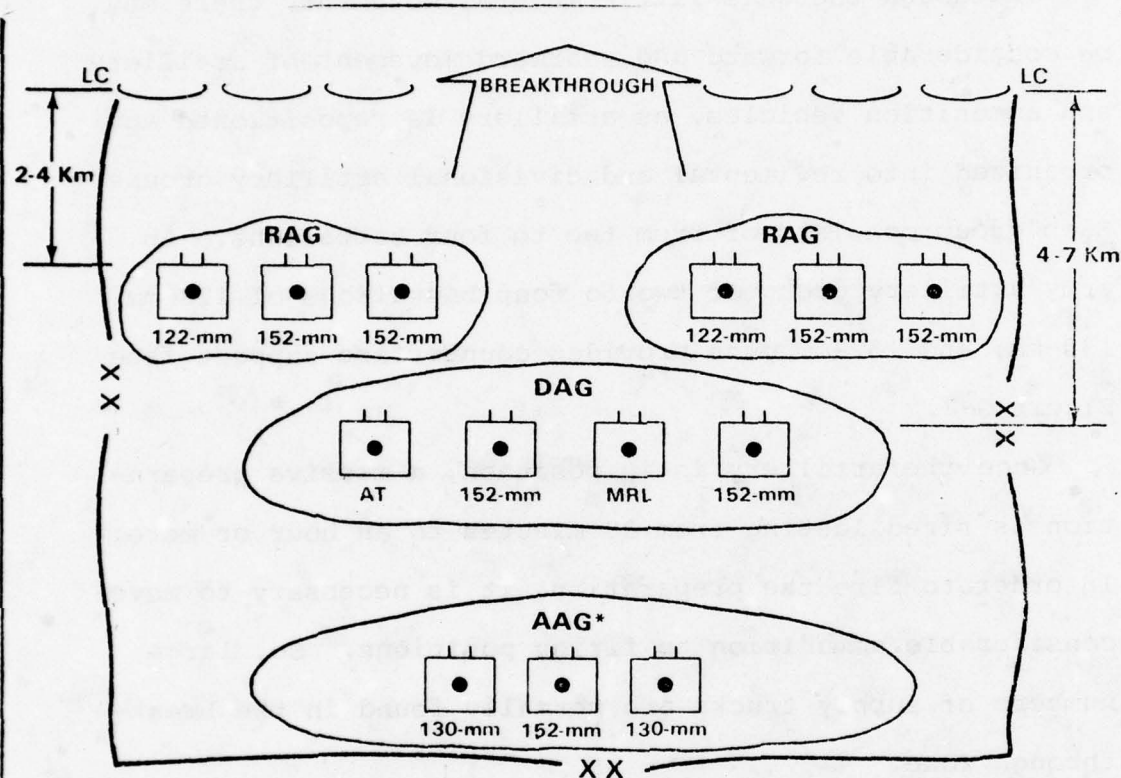
Once the artillery is in position, a massive preparation is fired lasting from 30 minutes to an hour or more. In order to fire the preparation, it is necessary to move considerable ammunition to firing positions. So, large numbers of supply trucks are normally found in the breakthrough zone.

During the preparation, maneuver units deploy into battalion and company columns, gradually narrowing the width of advance. The rate of advance is carefully controlled. When preparatory fires have ceased or have been shifted into the depth of the enemy defense, the assault begins. At this point, the breakthrough division front has narrowed to approximately 4 kilometers.

First echelon regiments try to rupture initial defensive positions, creating a gap in the defense. Tanks

FIGURE G-8

CONCENTRATION OF ARTILLERY FOR BREAKTHROUGH



*INCLUDES UP TO 4 BATTALIONS OF 122-MM, 130-MM, AND 152-MM ARTILLERY FROM FRONT ASSETS. ARTILLERY FORCES ARE DEPLOYED APPROXIMATELY 1-2 HOURS BEFORE THE ARRIVAL OF THE MAIN BODY AT THE LINE OF CONTACT.

FM 71-100 Armored and Mechanized Division Operations

normally lead the attack. Motorized rifle troops remain mounted in infantry fighting vehicles and follow immediately behind tanks. If the defense, particularly the antitank defense, is too strong, motorized rifle troops dismount and assault on foot, the BMP providing fire support from the rear.

Second echelon regiments of the breakthrough division pass through gaps created by the first echelon, widening the initial breach. If the breakthrough has been successful, a gap of approximately 20 kilometers in the defense should exist.

Second echelon divisions then move forward, pass through the first echelon in order to strike deep into the defender's rear, defeating whatever forces are there, destroying or capturing command posts, depots, and communication facilities.

If the breakthrough division is not successful, the front commander may:

- Continue the attack, using second echelon divisions,
- Transfer the main effort to a sector that is enjoying more success, or
- Order a halt to the attack, establish a defense, withdraw breakthrough divisions, and conduct a reassessment of front capabilities.

If the breakthrough successfully disrupts the defense, front second echelon tank or combined arms armies are committed

through gaps to exploit initial successes. Once into the enemy's rear, divisions move out in column or multiple routes, as in a movement to contact.

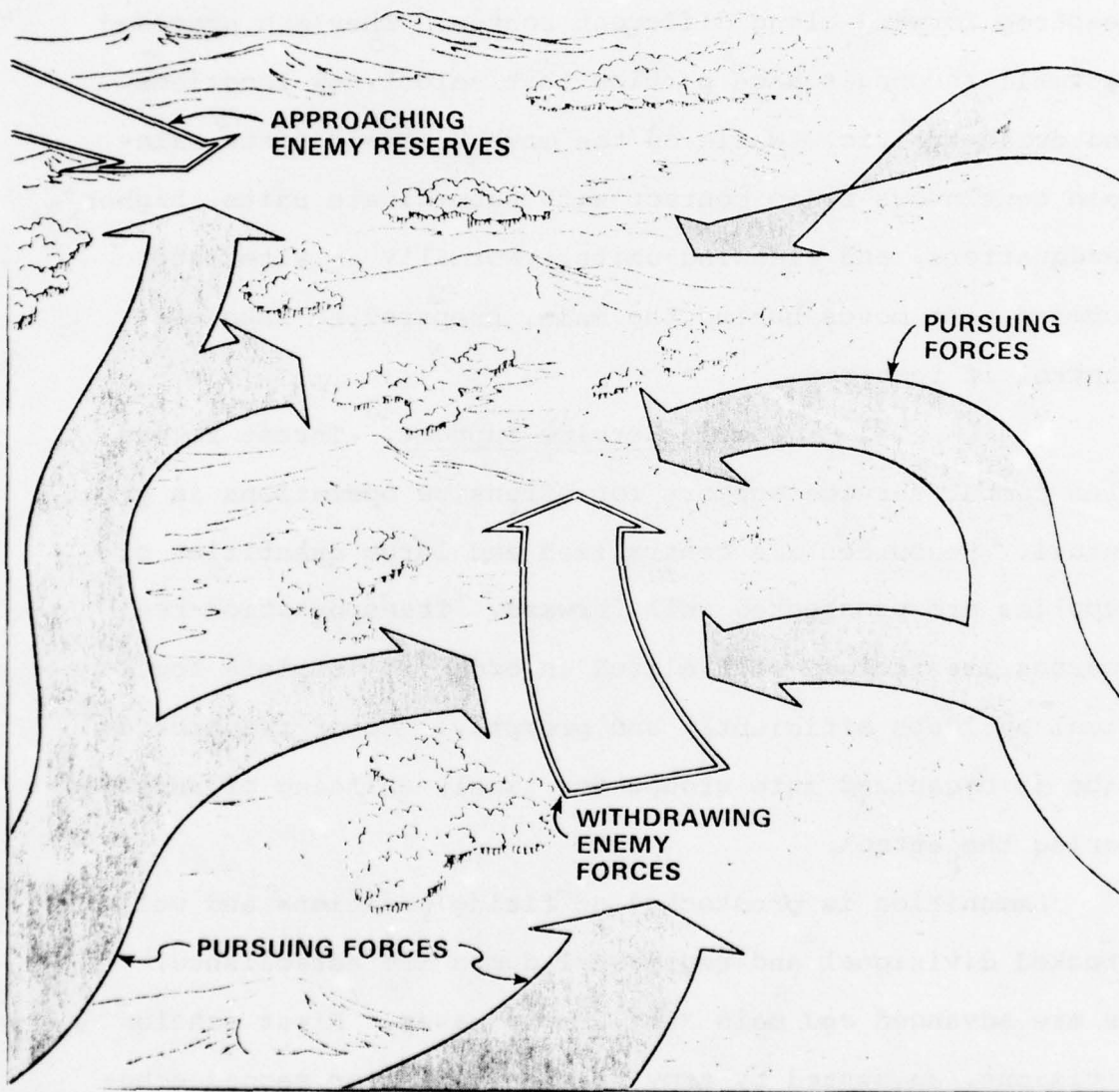
4. The Pursuit. The Threat considers the pursuit an offensive operation designed to complete the destruction of the enemy. Rather than follow a retreating enemy, pursuing units move along routes parallel to the enemy's retreat, attempting to out distance elements of the enemy force, cut withdrawing columns into segments, and destroy them. Helicopters are employed to locate and engage retreating units and guide pursuing forces. Airborne, air-landed, and airmobile forces are used to control critical terrain and block or slow down enemy withdrawal (see Figure G-9

5. Command control is exercised from a series of command posts. The distance between them is planned so that not more than one command post may be put out of action by a single-medium-yield nuclear weapon. Command posts are generally well defended against air attacks, but are not usually well defended against ground attacks.

The commander decides where command posts are to be established and the axis along which they will move. Front and army headquarters are generally sited in depth in order to maintain control of their entire areas. As a general rule, a forward command post is established at the rear of

FIGURE G-9

A TYPICAL THREAT PURSUIT OPERATION



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the next lower commander's first echelon. Divisional and regimental headquarters are located well forward in order to maintain control of the battle.

During the course of lengthy moves, command posts may leapfrog forward along different routes. They are preceded by small reconnaissance parties that select new locations and guide traffic. While on the move, command posts maintain continuous radio contact with subordinate units, higher headquarters, and flanking units. Normally an alternate command post moves behind the main, prepared to take over control if required.

6. Combat Service Support. Threat forces plan combat service support for offensive operations in great detail. Resources are centralized and large quantities of supplies are prestocked well forward. Transportation resources are rigidly centralized in order to complete logistical buildups efficiently and promptly. Motor transportation is organized into groups for timely shifting of supplies during the attack.

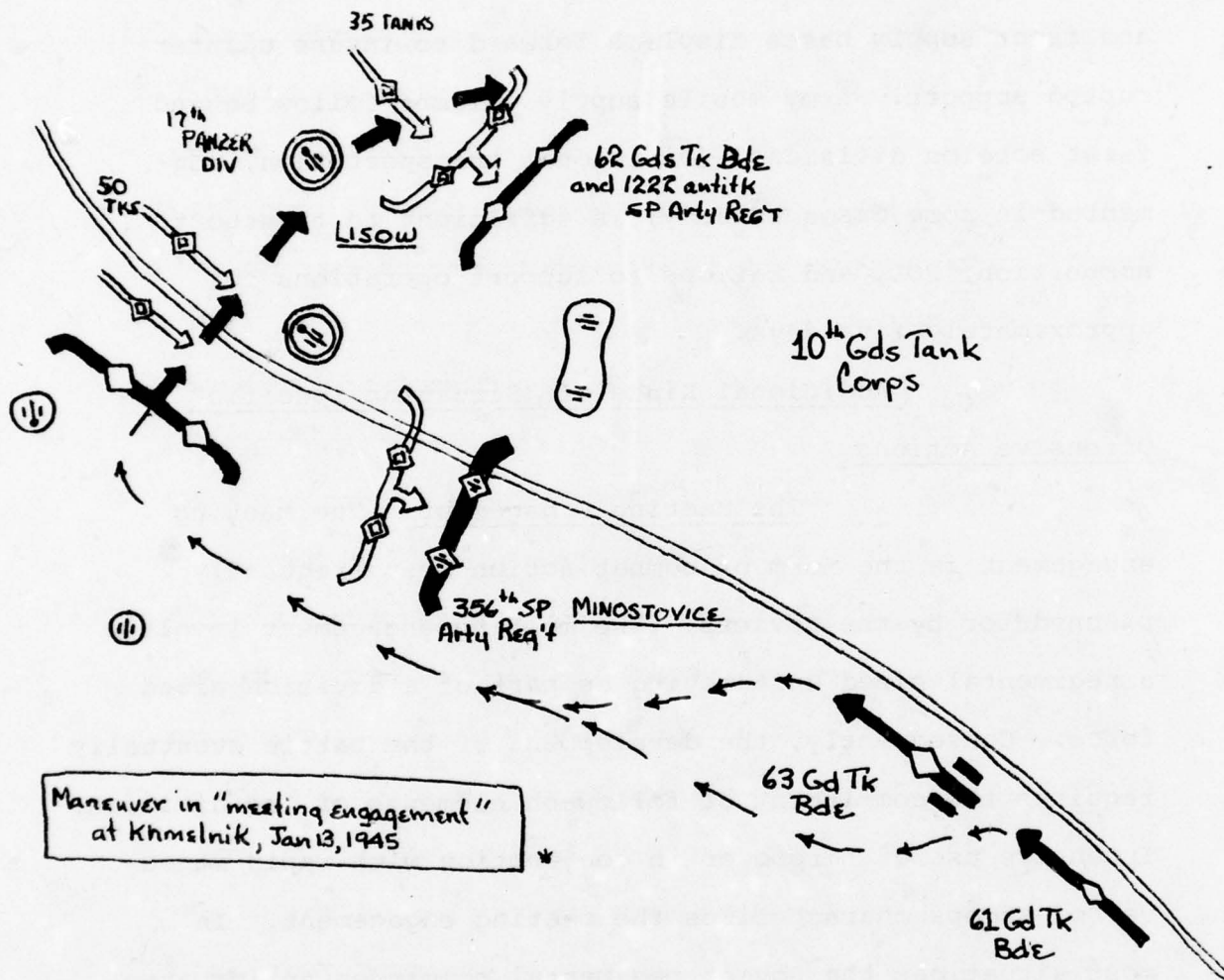
Ammunition is prestocked at firing positions and well-stocked divisional and regimental dumps are established, as are advanced and main army supply bases. First echelon divisions, augmented by army transportation or second echelon divisional transportation, supply themselves from army supply bases. Army transportation simultaneously hauls supplies from front supply bases to advanced army supply

bases established in the rear area of first echelon divisions. Front motor transportation hauls supplies to the army supply bases from the front base. As combat units advance, army and front supply bases displace forward to insure uninterrupted support. Army mobile supply columns follow behind first echelon divisions. Divisional transportation, augmented in some cases by army, is sufficient to transport ammunition, POL, and rations to support operations for approximately five days.

c. Additional Kinds of "Situation Specific"
Offensive Actions

1. The Meeting Engagement. The meeting engagement is the form of combat action most frequently planned for by the Soviets. The meeting engagement involves a regimental sized unit moving as part of a division sized force. Consequently, the development of the battle eventually requires the commitment of follow-on elements of the division. Intensive use of firepower in conjunction with rapid maneuver of troops characterizes the meeting engagement. In most situations the Soviet regimental commander anticipates a meeting engagement, advances in a predetermined march order, identifies the likely point of contact, and issues tentative orders for the engagement. The Soviets assault the approaching enemy formation, preferably from a flank, to create confusion while the enemy is still in march formation or is beginning to deploy into combat formations.

FIGURE G-10



From Novikov and Sverdlov, Maneuver in Modern Land Warfare, Khmelev, trans., Moscow: Progress Publishers, 1972.

The meeting engagement, like the attack and the defense, has become an independent form of combat. A meeting engagement occurs when both sides attempt to fulfill their mission by attacking, whereby they meet in a head-on confrontation. In most cases, this occurs directly from the march. Both sides struggle bitterly to achieve and maintain the initiative, make great efforts to anticipate the opponent's moves, and do everything possible to make thrusts and penetrations of the opponent's flanks and rear. The meeting engagement requires tight but resourceful management on the part of the commanders and staffs.

(From Soviet Regulations)

Soviet regulations lay special stress on the following points: A meeting engagement occurs when two opposing forces meet either intentionally or by surprise, and neither is in a position to go on the defensive, resulting in a forced decision by both sides to go immediately to the attack. The objective in the meeting engagement is to achieve and maintain the initiative by quickly breaking up the advance of the enemy's force and seizing the terrain, both of which are necessary for the immediate closing of the engagement. The meeting engagement has the following characteristics: (1) rapid closing by both sides; (2) uncertain situation at the beginning of the encounter; (3) little time for deploying forces and issuing orders; (4) echeloned insertion of individual units and subunits into action; (5) attempts by both sides to anticipate the other's opening fires and thrusts; (6) rapidly changing situations as the battle unfolds; (7) open flanks and wide dispersal; and (8) development of forces on a wide front.

A meeting engagement can arise out of many situations, such as the march, while in the attack, or during pursuit. Soviet leadership hopes that the enemy's order of battle can be rapidly and lastingly disrupted through successfully executing meeting engagements, thereby systematically blocking any potential advance. It also foreshadows the eventual success when closing with the main body of the enemy's force. As experience has shown, however, this form of combat is the least of all forms that corresponds to the mentality of the Russian soldier. Soviet leadership tries to make up for this deficiency through rigid and strenuous tactical training.

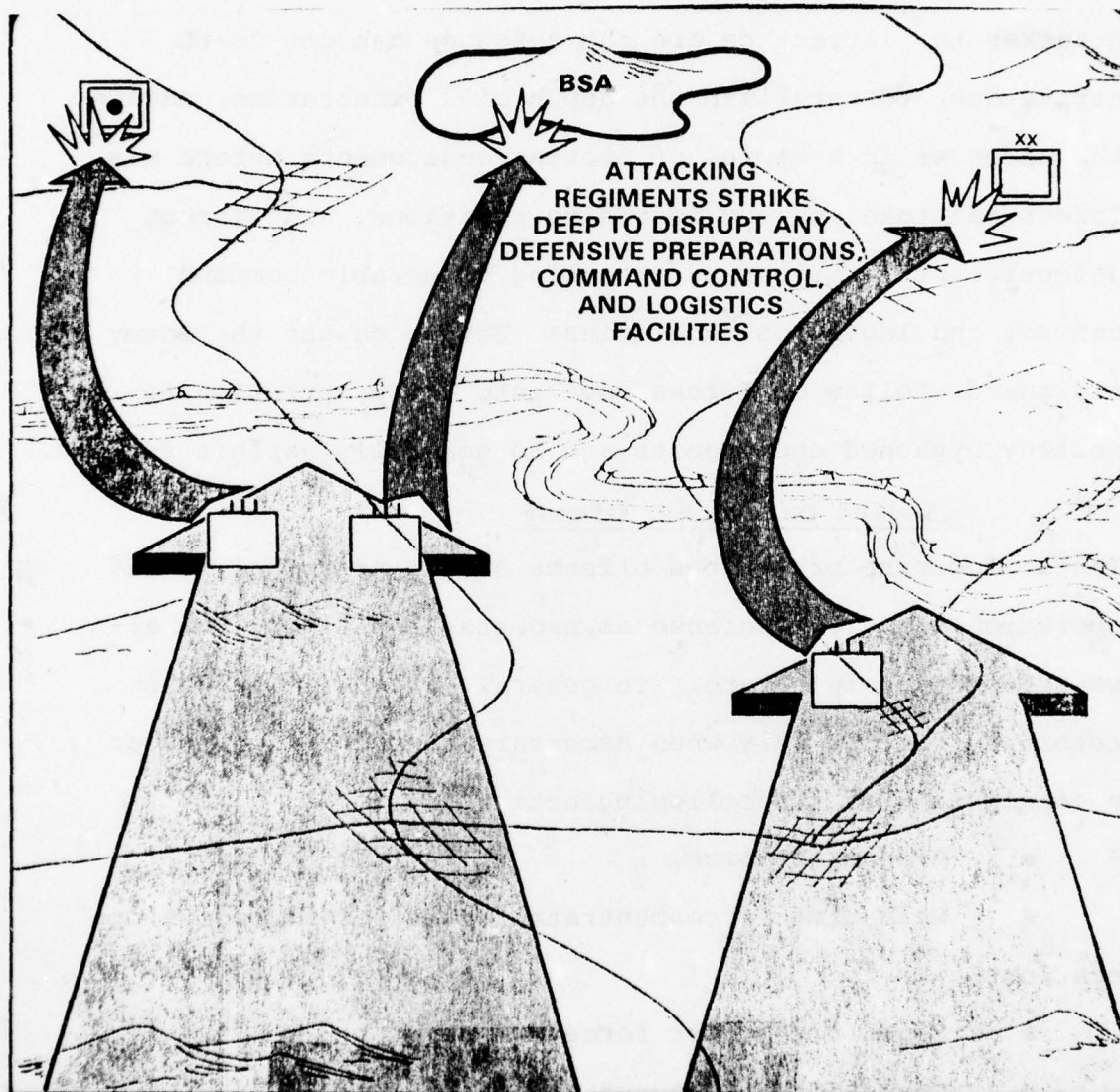
2. Preemptive Maneuver. The Threat has long emphasized the singular advantage that can be gained by surprise. Threat forces are therefore trained in techniques designed to achieve surprise--active and passive operations and communications security measures, deception measures, operations in darkness, bad weather, or smoke. All are extensively documented and widely practiced.

To Threat commanders, surprise is a way of reducing losses. Simply put, surprise can be a substitute for mass. By using surprise one can reduce losses expected in an attack against well set up defenses that feature deep belts of defending antiarmor forces.

In a preemptive maneuver the operative tactic is deep thrust. A preemptive maneuver may be launched by several

FIGURE G-11

THREAT PREEMPTIVE MANEUVER



regiments conducting deep thrusts on multiple axes--regimental axes reinforced by attack helicopters, field artillery, and perhaps surface-to-air missile units. Using all measures to achieve surprise, a preemptive maneuver calls for the attacker to: attack before the defenses can get "set", strike deep to establish the depth of a penetration, engage the defender in a series of meeting engagements before his forces can take up good defensive positions, and disrupt defensive preparations by attacking vulnerable command control and logistics facilities. Having caught the enemy off guard, follow on forces move into the penetration to destroy bypassed enemy units and to generally exploit success.

III. Soviet OM in the Defense

Threat doctrine prescribes offense as the principal combat operation and views defense as necessary at times, but always temporary in nature. In general, Threat commanders resort to defense only when necessary to accomplish one or a combination of the following actions:

- Economize force,
- Gain time to concentrate forces for offensive operations,
- Repel a stronger force,
- Consolidate captured objectives, and
- Cover a withdrawal.

Threat doctrine also prescribes motorized rifle units as best suited for the conduct of defensive operations. The

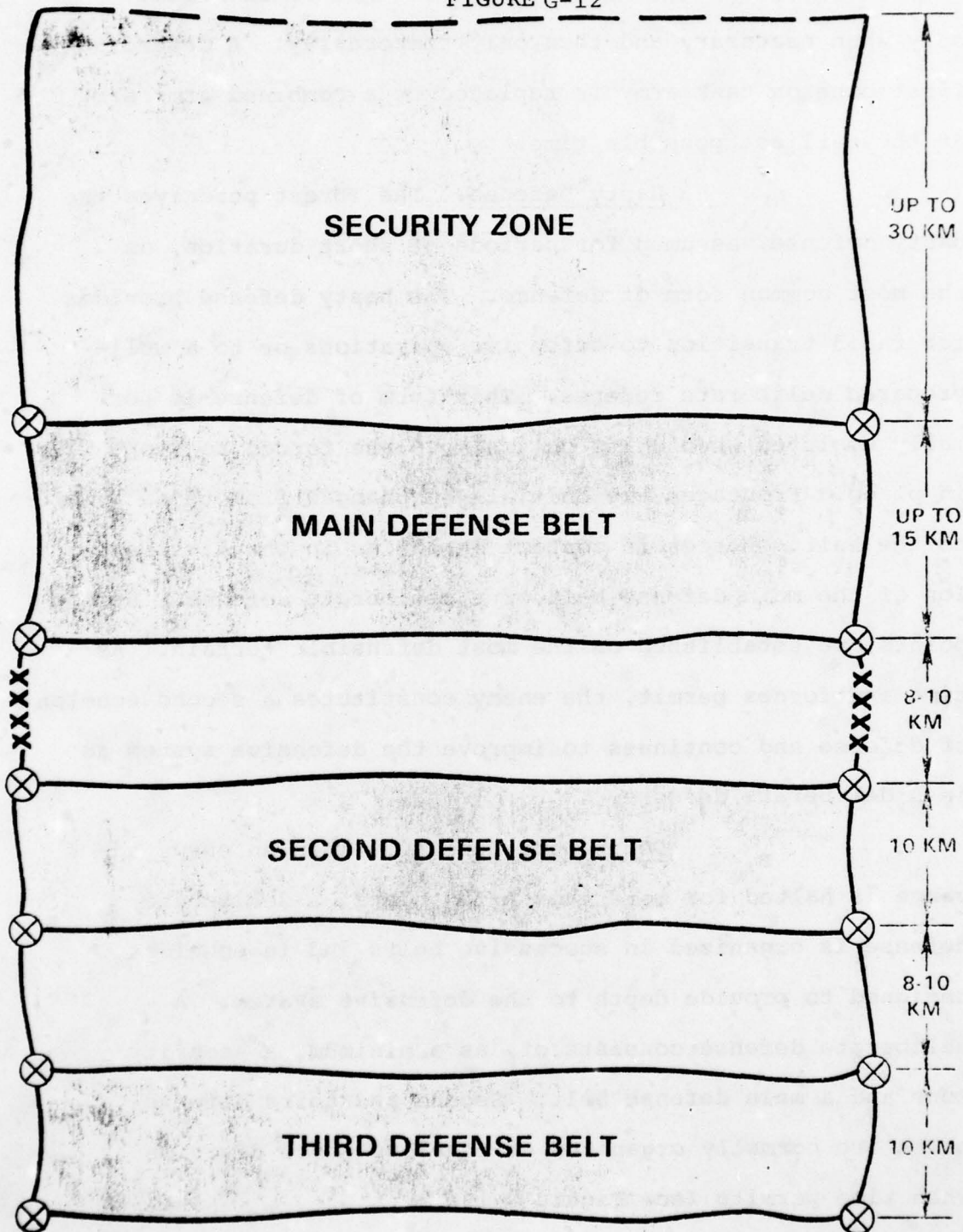
0 tank army, for example, defends as a first echelon unit only when necessary and then only temporarily. A defending first echelon tank army is replaced by a combined arms army at the earliest possible time.

A. Hasty Defense. The Threat perceives the hasty defense, assumed for periods of short duration, as the most common form of defense. The hasty defense provides for rapid transition to offensive operations or to a well-prepared deliberate defense. This form of defense is normally employed when units on the move are forced to stop in place. Frontages are initially unchanged from those prior to the halt. Forces in contact deploy as in the first echelon of the main defense belt of a deliberate defense. Strongpoints are established on the most defensible terrain. As time and forces permit, the enemy constitutes a second echelon of defense and continues to improve the defensive system as in a deliberate defense.

B. Deliberate Defense. When an enemy advance is halted for more than a few hours, a deliberate defense is organized in successive belts and in echelons designed to provide depth to the defensive system. A deliberate defense consists of, as a minimum, a security zone and a main defense belt. Second and third defense belts are normally organized at echelons above division when time permits (see Figure G-12).

Each defense belt consists of a series of mutually supporting company and battalion strongpoints echeloned in

FIGURE G-12



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depth. Strong, mobile tank-heavy reserves are retained as a counterattack force. Obstacles are constructed forward of and within each defense belt to impede the advance of attacking forces and to canalize them into preplanned killing zones.

The security zone normally extends up to 30 kilometers forward of the main defense belt. Forces in the security zone try to halt or delay the attacker by forcing him to deploy before reaching the main defense belt.

Combined arms army second echelon motorized rifle units and tank reserves, reinforced with artillery and engineer support, establish the security zone. Forces operating in the security zone fight as reinforced battalion or company-size units and are normally the only forces used to initially delay the enemy and cover preparation of main and successive defense belts. Following the conduct of successive delaying actions, security zone forces withdraw through the main defense belt and occupy prepared positions in the second defense belt.

Motorized rifle divisions in the main defense belt establish general outposts in the security zone as much as 15 kilometers in front of the main defense belt, employing approximately one motorized rifle battalion per 8 to 12 kilometers of front. General outpost forces will normally come from the divisional second echelon motorized rifle regiment.

First echelon regiments in the main defense belt establish combat outposts in the security zone 3 to 5 kilometers to the front of forward battalions. Regimental combat outposts normally consist of a rifle company reinforced by antitank weapons, artillery, tanks, and engineers. They protect forces in the main defense belt against surprise attack, conduct counterreconnaissance missions, and conduct counterfire operations against the attacker's field artillery. They also attempt to deceive the enemy as to the location of the main defense belt and to prevent the attacker from clearing obstacles.

The main defense belt is the backbone of the defense and is designed to stop and destroy attacking forces. It can be up to 15 kilometers deep. Every effort is made to take advantage of the natural defensive strength of the terrain.

Normally, motorized rifle divisions are employed in the main defense belt and are usually assigned a front of 20 to 30 kilometers and an approximate depth of 15 kilometers. The division defense is normally organized into two echelons, with two motorized rifle regiments in the first echelon and one in the second echelon. First echelon motorized rifle regiments defend the first 8 to 10 kilometers of the division zone. The second echelon motorized rifle regiment organizes battalion defense areas across the rear of the division zone approximately 10 kilometers from the forward trace of the main defense belt. Second echelon battalions are

positioned to protect key terrain and to block penetrations.

The medium tank regiment and independent tank battalions are normally retained under division control as a reserve. They are usually located to the rear of the second echelon motorized rifle regiment. Elements of the tank regiment (two or three companies) may be used to reinforce motorized rifle regiments.

The second defense belt is established and defended by army second echelon motorized rifle divisions and reserves, to include tank divisions which deploy to prepared positions in the second defense belt after completing security zone missions.

This belt is up to 10 kilometers deep and is located 8 to 10 kilometers to the rear of the main defense belt. If the enemy penetrates the main defense belt, forces in the second belt fight to contain him until counterattacks from the third defense belt can be launched.

The third defense belt is located 8 to 10 kilometers to the rear of the second defense belt. This belt normally consists of elements of a tank army, reserves available to the front, and possibly a combined arms army dispersed over a very wide zone.

The mission of forces in the third defense belt is to counterattack. In the event a counterattack cannot be mounted, they occupy prepared positions and attempt to stop the enemy's advance.

The defense begins when attacking units make contact with outposts in the security zone. Security outposts keep attacking units under fire with mortars, small arms, machine guns, tanks, and antitank weapons. Every effort is made to deceive the attacker as to the location of the main defense belt and to cause him to mass his forces. As security outposts are forced to withdraw, artillery fires are placed on the attacker to cover the withdrawal.

Fires from the main defense belt are withheld until the attacker reaches a point where maximum effectiveness can be obtained by the defender's weapons. At this time, close-in artillery and mortar barrages begin. The attacker is also brought under antitank and artillery direct fire while negotiating antipersonnel and antitank obstacles. Tanks are the primary target. The enemy employs all weapons that can damage or destroy tanks. Machine gun and small arms fire is used to separate dismounted infantry from tanks.

Defending battalions remain in place until overrun or ordered to withdraw by higher headquarters; however, occupation of alternate and supplemental positions within the defense area is permissible. The enemy expects penetrations in gaps between units and intends to accomplish maximum killing in these areas. Lightly engaged units adjacent to threatened areas are employed to fire into flanks of attacking forces. Penetrations of forward positions of battalion defense areas are blocked by the second echelon.

Local counterattacks are employed by the battalion or regiment to restore its part of the main defensive area.

If enemy penetration of the main defense belt cannot be stopped by local counterattacks, the combined arms army normally launches a counterattack. The counterattack force consists of the tank division and available elements of the engaged motorized rifle division. The counterattack force is supported by non-divisional reserves of tanks and other supporting weapons. If the combined arms army counterattack fails to eject the enemy from the main defense belt, remaining elements of engaged divisions withdraw to take up positions in the second defense belt. A counterattack is then mounted by the front second echelon tank army.

C. Fire Support. Threat artillery is organized for combat at army, division, and regimental level by combining organic units with assets allocated from higher headquarters to form groups. As previously described, regimental artillery groups (RAG) are normally located 2 to 4 kilometers from the forward edge of the main defense belt and consist of two to four battalions of 122-mm guns and 152-mm gun-howitzers. Division artillery groups (DAG) are positioned 4 to 7 kilometers from the forward edge of the main defense belt and consist of two to four battalions of 130-mm guns and 152-mm gun-howitzers. The DAG may also include the divisional multiple rocket launcher battalion. The army artillery group (AAG), when formed, is composed of

four battalions of mixed caliber and is normally located well forward in the army sector as previously described. Each of the three types of artillery groups may be altered during an operation.

In addition to the artillery support available from artillery groups, forward detachments and outposts will normally have accompanying artillery in the form of 122-mm self-propelled (SP) batteries. Motorized rifle battalions along the FEBA have organic batteries of 120-mm mortars and may be allotted up to a battalion of self-propelled or towed artillery for use in a direct fire role against tanks, armored personnel carriers (APC), and antitank guided missiles (ATGM).

D. Air Defense. Threat forces deploy mobile surface-to-air missiles (SAM) and conventional anti-aircraft (AA) guns for air defense. Zone coverage is provided by SAM systems, while point protection is provided by divisional and regimental light air defense weapons. Regimental air defense weapons are employed in direct support of maneuver battalions. They are deployed well forward and their primary targets are the attacker's air support aircraft and attack helicopters.

E. Command Control. Command control is exercised through a series of command posts. Commanders of a combined arms army and subordinate divisions normally control operations from forward, main, and rear command

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posts. Alternate command posts are also designated. Lower echelon commanders normally control operations from one or two command posts.

The commander decides which command posts are to be constituted and the physical location of each. Normally, division and lower level command posts are located in APCs, tanks, or special command vehicles and frequently change location for added security. Army and front command posts are normally more static and are often deployed in tentage or abandoned buildings. All headquarters have a small organic element which provides local defense and traffic control. Command post air defense receives a high priority.

First echelon divisions normally establish forward command posts near the rear of the most threatened first echelon regimental sector, usually within 5 kilometers of the forward edge of the main defense belt. Division main and alternate command posts are normally located an additional 5 to 10 kilometers to the rear with lateral dispersion of some 5 kilometers. The division rear command post is normally collocated with logistic elements and may be from 10 to 30 kilometers to the rear of the FEBA. Combined arms army main and alternate command posts are located within the second defense belt.

A system of radio, wire, and liaison is used to communicate. Radio equipment of the alternate command post,

however, is used only to monitor activities at forward and main command posts.

F. Combat Service Support. Combat service support installations generally are well dispersed, camouflaged, and away from likely nuclear targets. Supplies are placed underground or dug in whenever possible.

The front supply base is usually located near rail junctions. Depending on the tactical situation and available rail facilities, it is usually about 150 to 200 kilometers from the rear boundary of subordinate armies. This base is generally an extensive complex made up of branch depots for each of the services. The front supply base also contains medical installations, workshops, and maintenance units. Fuel and ammunition storage are well separated from other stores.

The army supply base is similar to that of the front, but smaller. It is also located beside rail lines, if possible, and consists of appropriate branch depots. Its distance behind the FEBA is generally about 90 to 130 kilometers. Bulk fuels are broken down into drums and cans at this level. The army usually establishes forward supply points near the army forward boundary of the rear area (immediately behind its first echelon divisions), generally on the basis of one per each first echelon division.

The division depot area is usually located near a road junction or along a main road. Supplies are generally

kept on wheels, but dumps on the ground may be established for major operations.

Rear installations of second echelon regiments are located from 16 to 20 kilometers from the FEBA. All rear installations of second echelon divisions are located 40 to 50 kilometers from the FEBA. The regimental supply point is usually located along a supply road leading from the division depot. Its facilities and functions are similar to those of divisions, though on a much smaller scale. Supplies are maintained on trucks.